BEFORE THE ARIZONA CORPORATION COMMISSION

JIM IRVIN
Chairman
TONY WEST
Commissioner
CARL J. KUNASEK
Commissioner

Docket No. T-00000B-97-0238

IN THE MATTER OF U S WEST COMMUNICATIONS, INC.'S COMPLIANCE WITH § 271 OF THE TELECOMMUNICATIONS ACT OF 1996

RESPONSE OF U S WEST TO MOTION OF JOINT MOVANTS TO REQUIRE U S WEST'S TO SUPPLEMENT ITS 271 FILING TO INCORPORATE IMA RELEASE 4.0

U S WEST respectfully submits this Response to the Motion by the Joint Intervenors to Require U S WEST to Supplement its 271 Filing to Incorporate IMA Release 4.0. In response to the Joint Intervenors' motion, U S WEST states as follows:

The Joint Intervenors' motion is without merit and appears to be nothing more than a an attempt to provide commentary on release 4.0 before they file their testimony. Nevertheless, as the Joint Intervenors' request, U S WEST submits as Exhibit A the supplemental affidavit of Dean Buhler, which sets forth the changes in EDI and IMA that were made in IMA release 4.0.

At the outset of this case, U S WEST indicated that the facts of the case would change significantly between the time U S WEST filed its application with the Commission and when U S WEST files with the FCC. For that reason, U S WEST suggested an alternative procedural order that would have resulted in a much shorter time between the filing of direct testimony and the hearing in this matter. That procedural order was not adopted. The current procedural order will result in almost five months between the filing of U S WEST's direct testimony and the hearing in this matter. U S WEST has proposed a compromise procedural order, which will, if adopted, reduce the time frame somewhat, but which will still result in four months between

direct testimony and the hearing. The facts of this case will change significantly during the course of this docket, and the record will be updated to reflect those changes. In particular, U S WEST is continuing to improve and update its OSS interfaces, EDI, EB-TA and IMA. As the Joint Intervenors demand in their motion, U S WEST will update the record following any significant releases.

When he filed his original affidavit, Mr. Buhler was aware of the planned 4.0 release, and Mr. Buhler was reasonably confident that the release would be implemented as scheduled. However, nothing is certain in the development of software, Mr. Buhler decided not to testify about planned releases until they were actually implemented, and he focused on the interfaces as they existed at that time.

Joint Intervenors' motion appears to be nothing more than a vehicle to criticize release 4.0. None of the criticisms has any merit. The Joint Intervenors complain that U S WEST has implemented an improvement that so that IMA only displays USOCs for services and elements contained in a CLEC's interconnection agreement. This improvement provides a significant benefit to CLECs. Rather than having to scroll through hundreds of USOCs, the CLEC is provided only those contained in its agreement and available at the applicable switch. In addition, this improvement will reduce the number of times that CLEC orders will be rejected, because it will prevent CLECs from inadvertently choosing the wrong USOC.

In a gratuitous footnote, the Joint Intervenors claim that: "This change also raises serious questions whether U S WEST will make available for resale at wholesale rates, all retail services as required by 47 U.S.C. § 251(c)(4)." Motion, footnote 4. This argument is absurd. U S WEST offers all services that it is required to offer for resale. However, to do business, the CLEC and U S WEST must have a contract, and to request a service for resale, a CLEC must a contract that sets forth the terms and conditions for provision of the service. Nothing in this improvement to IMA limits the services that CLECs can request be included in their contracts.

In conclusion, there will be many changes in the evidence in the five months between the filing of U S WEST's testimony and the hearing in this matter. That fact cannot be helped. The problem will be mitigated somewhat if U S WEST's compromise procedural order is adopted, but the timing problem cannot be completely avoided in this case. U S WEST has submitted the supplemental affidavit of Dean Buhler, which describes the changes to EDI and IMA as a result of release 4.0. U S WEST will update the record in this matter as further facts develop, as requested by the Joint Intervenors.

For all of the foregoing reasons, the Motion by the Joint Intervenors to Require U S WEST to Supplement its 271 Filing to Incorporate IMA Release 4.0 should be denied.

DATED this 23rd day of April, 1999.

Respectfully submitted,

U S WEST COMMUNICATIONS, INC.

By _____

Andrew D. Crain
Charles W. Steese
Thomas M. Dethlefs
1801 California Street, Suite 5100
Denver, CO 80202
(303) 672-2948

FENNEMORE CRAIG, P.C.
Timothy Berg
3003 North Central Ave., Suite 2600
Phoenix, AZ 85012
(602) 916-5421

Attorneys for U S WEST Communications, Inc.

I hereby certify that on this 23rd day of April, 1999, the original and ten copies of the above and foregoing was filed with:

Docket Control
ARIZONA CORPORATION COMMISSION
1200 W. Washington St.
Phoenix, AZ 85007

I further certify that one copy of the above and foregoing was served via hand delivery upon the following:

Maureen A. Scott
Legal Division
ARIZONA CORPORATION COMMISSION
1200 W. Washington St.
Phoenix, AZ 85007

Ray Williamson, Acting Director
Utilities Division
ARIZONA CORPORATION COMMISSION
1200 W. Washington St.
Phoenix, AZ 85007

Jerry Rudibaugh, Chief Hearing Officer
Hearing Division
ARIZONA CORPORATION COMMISSION
1200 W. Washington
Phoenix, AZ 85007

I further certify that one copy of the above and foregoing was served via first-class mail, postage prepaid thereon and addressed to the following:

Joan S. Burke
Osborn Maledon, P.A.
2929 N. Central Ave., 21st Floor
PO Box 36379
Phoenix, AZ 85067-6379
AT&T and NEXTLINK

Thomas F. Dixon
Karen L. Clausen
MCI Telecommunications Corp.
707 17th Street # 3900
Denver, CO 80202

Thomas Campbell
Lewis & Roca
40 N. Central Ave.
Phoenix, AZ 85004
ACI Corp.

Stephen Gibelli
Residential Utility Consumer Office
2828 North Central Ave., Suite 1200
Phoenix, AZ 85004

Michael M. Grant
Gallagher & Kennedy
2600 N. Central Ave.
Phoenix, AZ 85004-3020
Electric Lightwave. Inc

Joyce Hundley
U.S. Dept. of Justice
Antitrust Division
1401 H Street, NW, # 8000
Washington, DC 20530

Donald A. Low
Sprint Communications Company, LP
8140 Ward Parkway 5E
Kansas City, MO 64114

Barry Pineles
GST Telecom, Inc.
4001 Main Street
Vancouver, WA 98663

Richard S. Wolters
AT&T and TCG
1875 Lawrence Street # 1575
Denver, CO 80202

Raymond S. Heyman
Randall H. Warner
ROSHKA HEYMAN & DEWULF, PLC.
Two Arizona Center
400 North Street , Suite 1000
Phoenix, AZ 85004-3906
American Payphone Association (APA)

Andrew O. Isar
Telecommunications Resellers Association
4312 92nd Ave., NW
Gig Harbor, WA 98335

Michael Patten
Lex J. Smith
Brown & Bain
2901 N. Central Ave.
PO Box 400
Phoenix, AZ 85001-0400
Cox and e.spire

Daniel Waggoner
Davis, Wright & Tremaine
2600 Century Square
1501 Fourth Avenue
Seattle, WA 98101-1688
NEXTLINK Arizona, Inc

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BEFORE THE ARIZONA CORPORATION COMMISSION

CHAIRMAN
TONY WEST
COMMISSIONER
CARL J. KUNASEK
COMMISSIONER

IN THE MATTER OF U S WEST COMMUNICATIONS, INC'S COMPLIANCE WITH § 271 OF THE TELECOMMUNICATIONS ACT OF 1996	)	**DOCKET NO. T-00000B-97-0238**

SUPPLEMENTAL AFFIDAVIT OF

DEAN W. BUHLER

U S WEST COMMUNICATIONS

APRIL 23, 1999

AFFIDAVIT INDEX

IDENTIFICATION OF AFFIANT

My name is Dean W. Buhler. I am the same Dean W. Buhler who filed U S WEST's OSS affidavit on March 25, 1999.

PURPOSE OF AFFIDAVIT

The purpose of my affidavit is to provide information about U S WEST's IMA/EDI Release 4.0 which was implemented on March 26, 1999.

EXECUTIVE SUMMARY

Typically, U S WEST releases new capabilities to its electronic interfaces on a quarterly basis. Release 4.0 was implemented on March 26, 1999 for IMA and EDI, one day after U S WEST's affidavit filing in this matter. This release implemented important new capabilities for CLECs, including but not limited to porting a range of telephone numbers, returning available products at a customer's location that are based on the capabilities of the switch and a specific CLEC's interconnection contract, editing a CLEC's order request for valid USOCs, and returning switch feature and customer service record verifications.

U S WEST notified CLECs in advance about release 4.0 beginning on February 26, 1999 and provided access to the release notes on March 5, 1999. The release was tested internally to ensure operability and CLECs were trained on the new capabilities.

IMA/EDI SOFTWARE DEVELOPMENT RELEASES

1. Typical Release Schedule

U S WEST typically implements quarterly releases to enhance its electronic interfaces: IMA (Interconnect Mediated Access), EDI (Electronic Data Interchange) and EB-TA (Electronic Bonding and Trouble Administration). Each release is numerically identified. This identifier corresponds generally to the quarter in which the release is implemented. Furthermore, U S WEST notifies the CLECs that are set up to use IMA in advance of the release's implementation date regarding the new capabilities and other pertinent information.

2. Release 4.0 Schedule

The latest release, Release 4.0, was implemented on March 26, 1999, one day after U S WEST's filing of affidavits in this matter. U S WEST provided information about Release 4.0 to a long list of CLECs beginning on February 26, 1999 (see Exhibits DWB-112 through DWB-115). Release notes were made available on March 5, 1999 (see Exhibit DWB-116).

3. Release 4.0 Capabilities

Release 4.0 implements new capabilities that benefit the CLECs. For a detailed description of this release's capabilities, please refer to Exhibit DWB-116. Capabilities with the largest benefit to CLECs are as follows:

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Interface	Capability	Capability Description
IMA & EDI	Ported telephone numbers accepted as ranges	This capability allows a CLEC to request that a range of telephone numbers be ported.
IMA & EDI	Service availability query based on resellable products	This capability returns a list of products for a customer's location that the CLEC is contractually authorized to resell and the switch supports. Also returned are U S WEST's recurring and nonrecurring rates for switch-based products, and the CLEC's resale discount percentage.
IMA & EDI	USOC (Universal Service Order Codes) Validation	This capability edits for valid USOCs. Validity in this context refers to whether the USOC itself is valid or the CLEC is authorized to resell a specific product (identified by a USOC).
IMA & EDI	Account number field for CSR (Customer Service Record) multiple response window	This capability returns the full 13-character account number and account status (live or final) to resolve multiple CSR situations.
IMA & EDI	SAGA (street address guide area) field for address validation	This capability resolves near and multiple matches of addresses (for example, an address may span zip codes and multiple SAGAs.

Interface	Capability	Capability Description
IMA	Feature Verification	This capability retrieves a CSR and switch information so that the CLEC may verify (1) the features that are active on the CSR are also active on the switch, and (2) the service in question is active on the CSR.
IMA	Modify trouble report response window	This capability allows the CLEC to find out a trouble report has been successfully modified.

Exhibits DWB-006, DWB-007 and DWB-009 have been updated to reflect the new capabilities of Release 4.0. Please note that DWB-007 also contains corrections. In the March 25th filing, references to IMA's repair and maintenance functionality was inadvertently omitted which have now been corrected. Both additions and corrections are indicated with change bars and underscoring.

4. Training and Testing

As with all releases, U S WEST performed internal testing and conducted IMA training classes. For specific information regarding testing, please refer to Exhibits DWB-117 through DWB-119. The IMA Automation Test Report for Release 4.0 is being finalized. Typically, these types of reports are formally completed after release implementation. The report will be provided as soon as it is formally completed. For information regarding training, please refer to revised Exhibits DWB-76 and DWB-77.

SUMMARY

U S WEST usually releases new capabilities to its electronic interfaces on a quarterly basis. Release 4.0 was implemented on March 26, 1999 for IMA and EDI. This release provides important new capabilities for CLECs, including but not limited to porting a range of telephone numbers, returning available products at a customer's location that are based on the capabilities of the switch and a specific CLEC's interconnection contract, editing a CLEC's order request for valid USOCs and returning switch feature and customer service record verifications.

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BEFORE THE ARIZONA CORPORATION COMMISSION

JIM IRVIN
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COMMISSIONER

IN THE MATTER OF U S WEST COMMUNICATIONS, INC'S COMPLIANCE WITH § 271 OF THE TELECOMMUNICATIONS ACT OF 1996	)	**DOCKET NO. T-00000B-97-0238 AFFIDAVIT OF DEAN W. BUHLER**
STATE OF COLORADO	)	
	:	**SS**
COUNTY OF DENVER	)	

Dean W. Buhler of lawful age being first duly sworn, deposes and states:

1. My name is Dean W. Buhler. I am Regulatory Manager of U S WEST Communications in Denver, Colorado.

2. I hereby swear and affirm that the statements and data contained in the attached affidavit and exhibit(s) are true and correct to the best of my knowledge and belief.

Dean W. Buhler

SUBSCRIBED AND SWORN to before me this 22nd day of April, 1999.

Notary Public

My Commission Expires:

11/12/2000

IMA FUNCTIONAL PROCESS DESCRIPTIONS AND COMPARISONS

1. **PRE-ORDERING**
2. **ORDERING & PROVISIONING**
3. **REPAIR**
4. **BILLING**

1. PRE-ORDERING

In contrast with the Federal Communications Commission's (FCC) definitions of "pre-order" and "order" activities, U S WEST has no separate pre-order and order processes. Pre-ordering activities generally occur in the context of negotiating a service order. However, so as to facilitate a comparison of the FCC required functions provided by Interconnect Mediated Access (IMA) with the functions performed by a U S WEST customer service representative, some U S WEST order functions will be discussed in the pre-order section. The pre-order section has been organized to present descriptions of internal U S WEST functions for both Plain Old Telephone Service (POTS) and non-POTS related services followed by a description of how the same functions and services are supported through the IMA interface. Next, unbundled network elements and miscellaneous products are discussed. Lastly, a comparison analysis of the pre-order process is presented.

The activity referred to as pre-order, for POTS and non-POTS, is comprised of seven major functions: address verification, facility availability, carrier listing, service availability (POTS only), Customer Service Record (CSR) review, telephone number process, and appointment scheduling. Internal U S WEST representatives perform these functions in separate steps using various Operations Support Systems (OSS) and diverse interfaces. IMA allows competitive local exchange carrier (CLEC) representatives to perform these functions using a single interface to access the same OSSs the U S WEST retail representatives use.

PRE-ORDER FUNCTIONS POTS AND NON-POTS PRODUCTS

U S WEST customer service representatives perform seven typical functions, for retail POTS and non-POTS service orders. CLEC representatives can choose to skip any or all of the pre-order functions. If an order that is submitted contains invalid or missing data, the CLEC representative has the opportunity to correct the information and resubmit the order without losing any data previously entered.

The CLEC representative, using IMA, can perform the same pre-order functions that are used by U S WEST retail representatives. These pre-order transactions are as follows:

Address Verification

Before a service order can be created, the U S WEST retail representative must verify the address where service is to be established to ensure that the proper address is located. Valid street addresses are important because address data is contained in several U S WEST systems and is critical for installation, repair, billing and E911. Incorrect addresses will cause an order to error, which can result in manual activity.

For non-POTS, the U S WEST representative accesses PREMIS/CNum directly to obtain address verification.

When service pre-exists at the service location, the CLEC representative using IMA need only enter the Working Telephone Number (WTN) and the zip code of the service location address to request address verification. When adding new service, the CLEC representative enters the service address and Street Address Guide Area (SAGA) to request address verification. Using the information provided, IMA determines the appropriate U S WEST OSS system to access (PREMIS/ CNum),

validates the address, and saves the information to pre-populate related fields on other IMA screens. Up to ten addresses are retained at any one time, and are used to pre-populate address-related fields on other IMA pre-order and order screens.

Facility Availability

The U S WEST retail representative determines the availability and characteristics of telephone facilities in the area to provide new or additional service as requested by the customer. For both POTS and non-POTS, a U S WEST representative uses the Facility Check interface to obtain a preliminary indication regarding the availability of the requested facilities at the customer's service address. Facility Check retrieves its information from the U S WEST Loop Facility Assignment Control System (LFACS).

The CLEC representative can choose from five different types of facility availability checks. The five types of facility check are for: (1) design services, (2) high capacity, (3) convert POTS to unbundled loop, (4) POTS, and (5) ISDN loop qualification. These requests return information similar to that given to a U S WEST representative from the Facility Check interface. From the information returned, the CLEC representative can determine the availability and characteristics of services, in the area, as requested by the customer. The information presented for Facility Check by IMA is retrieved from LFACS.

Carrier Listing

A U S WEST representative retrieves the list of available long distance carriers so that the customer can choose a carrier. The randomized available carrier list will depend on the location of the customer's service.

The U S WEST representative uses the Facility Check interface to request the carrier list from PREMIS.

The CLEC representative does not need to perform this function as a separate step. As part of the functions performed during the Service Availability step, a list of available long distance carriers is provided.

Service Availability

A U S WEST representative retrieves the list of available services at the customer's service address to ensure that customer-requested POTS-related services can be satisfied. The U S WEST representative types the telephone number on the first SONAR screen and then navigates through various SONAR screens until reaching the screen that displays available services. SONAR returns an available services list comprised of Universal Service Order Codes (USOCs) which will vary dependent on the location of the customer's request for POTS service. All available POTS product codes (USOCs), with a brief product name, and the associated U S WEST retail recurring and non-recurring charge rates are displayed in SONAR. If the U S WEST representative wishes to investigate service availability for another telephone number, he or she must begin again at the first SONAR screen and repeat the process. The Pre-Order process for many non-POTS products does not include the determination of service availability. Instead, the internal U S WEST representative uses a printed job aide to manually determine appropriate USOCs for non-POTS related products.

The CLEC representative can request, via IMA, a list of available resale POTS product codes (USOCs) including a brief description, available long distance carriers, and related servicing switch information. The CLEC

representative must type in the desired NPA (Number Plan Area), /NXX (telephone number prefix), select the desired state from a pull-down menu and specify whether the customer desires business or residential service. The response can be bounded, or limited, by entering a filtering mask based on USOCs. The user may also choose to retrieve information based on a single switch or multiple switches serving a customer's location. Returned are a list of available product codes based on the products available in the switch(es) and on a CLEC's specific interconnection contract with U S WEST. Also returned are U S WEST's recurring and nonrecurring rates for switch-based services and the CLEC's resale discount percentage. The returnedA screen ~~with the list of available product codes, descriptions, and non-recurring and recurring rates is returned and~~ may be kept viewable while reviewing the CSR or the LSR forms during order data entry. The list of POTS product codes that are switch-based ~~displayed in IMA~~ is based on the product list made available to internal U S WEST SONAR users. The CLEC representative uses job aides to determine associated USOCs for non-POTS related products.

Customer Service Record Review

For both POTS and non-POTS, the U S WEST retail representative reviews the CSR to determine how an existing customer is listed in the directory, where the customer's bill is directed, and the services currently provided to the customer. For some transactions, such as conversions, a U S WEST representative views limited CSR information using SONAR. For other transactions, a U S WEST representative enters the telephone number to retrieve the CSR from Business Operation Support System (BOSS) for U S WEST's central and eastern region customers, or Customer Account Record System (CARS) for western region customers.

Getting a CSR for the working telephone number (WTN) allows the CLEC representative to immediately review the current directory listing, billing name, billing address, and the services and equipment at the service location(s). The CLEC representative enters basic information, such as WTN, customer name and address, to retrieve the CSR. When a WTN is not applicable to the service, the CLEC representative can enter the circuit ID associated with the service to retrieve the appropriated CSR. IMA accesses and retrieves the CSR from BOSS/CARS. IMA returns the related LSR information to the CLEC in an understandable format. The returned CSR displays whether the account is live or final. This account status assists the CLEC users in deteriming whether a request is appropriate for an existing account (live status) or a request for new service is necessary (final status). Also, in the event near or multiple matches of CSRs are found, the full 13-character account number is provided so that the CLEC user can identify the correct account. The account status is also helpful in making this determination.

Telephone Number Process

Telephone number selection is necessary when requesting a new service, a new line on an existing service, change of telephone number, or moving to an area outside of the current local service office. In addition to typical address information, the U S WEST retail representative can also request that available telephone numbers be returned during address verification performed using PREMIS. Optionally, the U S WEST representative can select a telephone number, for POTS orders, using SONAR, during the order entry process. This telephone number should be the number assigned to the finished service when the order is provisioned. The SONAR interface supports reserving this telephone number, in PREMIS, during the order process.

As part of IMA, the telephone number process consists of four functions: telephone number availability, selection, exchange and return. For POTS products, the IMA interface enables a CLEC representative to select a telephone number that will be the number assigned when the service is provisioned. The CLEC representative can choose to reserve the telephone number as part of the pre-order or the order process. The selected TN(s) has a specific timeframe, 24 business hours, in which to be included on a submitted service request, or the TN(s) is automatically returned and made available. Selection of a telephone number for appropriate non-POTS products is not available using IMA at this time. However, it is not available for U S WEST retail either. The CLEC representative may obtain this type of telephone number by calling the ISC; a process which is similar to that used by a U S WEST representative.

POTS-related functions in IMA enable CLEC representatives to offer alternate telephone numbers if the customer does not like the initial selection. For POTS products, IMA offers up to nine alternates. In SONAR, only one telephone number is presented to the U S WEST service representative. If the customer does not like the telephone number, the U S WEST representative must enter another OSS, PREMIS, to select an alternate telephone number. Three telephone numbers are presented in PREMIS from which the customer may select.

In certain cases, requirements for telephone number selection exceed the automated capabilities of both internal and IMA interfaces. For example, to request vanity telephone number selection, or orders with more than nine lines, both U S WEST retail and IMA users must call the U S WEST department which selects telephone numbers according to customer specifications. SONAR, IFE and IMA interfaces then allow these

manually selected telephone numbers to be entered on the order so they can be provisioned for service.

Appointment Scheduling

If a technician needs to be dispatched to the premises, an appointment can be scheduled. For POTS, the U S WEST retail representative accesses the Appointment Scheduler system either directly or by using SONAR during the order process. This system will return to the representative a calendar of available appointments. Using a printed job aide, the representative calculates the due date based on the type of service being requested. An appointment can then be scheduled either on or after the calculated due date. If the appointment is scheduled after the calculated due date, the actual due date entered on the service order is the same date as the appointment date. The customer chooses an appointment, and the U S WEST representative then enters the agreed-upon date, time and other miscellaneous information in SONAR. For non-POTS services, the U S WEST representative uses the printed job aide in the same way as for POTS service, except that the information is then entered into IFE, not SONAR, and provided to the customer.

The IMA interface also uses the Appointment Scheduler system for POTS orders, in a similar manner as it is accessed internally by SONAR. A reserved appointment time has a specific timeframe, 24 business hours, in which to be included on a submitted service request, or the appointment is automatically returned and made available. If an order is submitted without an appointment, and one is required, the ISC will contact the CLEC to make an appointment. Regardless of whether an appointment is scheduled, the CLEC representative uses the standard intervals published in the Interconnection and Resale Resource Guide

(IRRG), to determine the due date and time for completion of orders, which is the same process used by the U S WEST retail representative.

PRE-ORDER FUNCTIONS FOR UNBUNDLED NETWORK ELEMENTS

Because there is no retail analogue for the pre-ordering of unbundled network elements (UNEs), there is no internal U S WEST legacy systems comparable to the IMA system described in this section.

Unbundled Loop

Only two pre-order activities are necessary when ordering an unbundled loop; address verification and facility check. An additional pre-order function that could be performed is a CSR review. The address verification and CSR review functions can be performed, using IMA, in the manner previously described in this section.

Facility Availability

The CLEC representative can also use IMA to obtain an estimate regarding the availability and characteristics of services in the area necessary to provide unbundled loop service as requested by the customer. Either the service address, WTN and zip code or the circuit ID, Local Service Office (LSO) and zip code are entered, using IMA, to determine if a POTS loop can be converted to an unbundled loop. The information presented is retrieved from LFACS.

Unbundled Switch Analog Line Side Port and Unbundled Switch Digital Line-Side Port

The telephone number transactions apply to a request for an unbundled switch port. This is because U S WEST performs the switching function with a switch port. Two other transactions could be used: address

verification and CSR review. These functions can be performed, using IMA, in the manner previously described in this section.

Interim and Local Number Portability Products

While no pre-order activities are necessary for ordering interim number portability (INP) or local number portability (LNP), certain pre-order activities may be performed using IMA. The following two functions could be used: address verification and CSR review. These functions can be performed, using IMA, in the manner previously described in this section.

PRE-ORDER COMPARISON

As described, U S WEST provides CLECs with pre-order information equal in quality in substantially the same time and manner at it provides to itself. However a limited number of insignificant differences exist. For example, CLECs must select a billing account number (BAN) at the time they complete the local service request forms (LSRs). The BAN identifies the CLEC's summary bill to which the customer accounts belongs. The Ordering and Billing Forum (OBF) required the BAN as part of the LSR and U S WEST has implemented the BAN consistent with the OBF's definition. In contrast, U S WEST' retail representatives do not have to select the billing cycle; the bill date which defines the start of the billing cycle is defined by the NPA/NXX of the customer's telephone number.

There are also several instances in which the processes used by the CLEC's representative are more user-friendly than that employed by the U S WEST representative. The U S WEST representative must log on to many different systems and perform different activities to get the equivalent information that a CLEC representative can access after logging on to just one system, IMA.

2. ORDERING & PROVISIONING

Three major functions make up the ordering and provisioning process: (1) the receipt of a request for service, generally an LSR; (2) service order generation; and (3) service order processing.

U S WEST and CLEC orders use different interfaces on the front end where the request for local services is generated. However, once a service order has been generated, all orders, regardless of their origin, travel the same path through the U S WEST order processes.

The following section first presents descriptions of internal U S WEST and IMA functions for both POTS and non-POTS related services. Next, network elements and miscellaneous products are discussed. Lastly, an analysis of the order and provisioning process is presented.

The basic course of managing and completing a CLEC order is comparable to managing and completing an internal U S WEST service order. There are ten major functions included in the ordering and provisioning phase: product and service selection, customer listing creation, billing information establishment, summary information review, order storage and retrieval, order submission (which includes rejection notices and FOCs, which are provided only to CLECs), supplemental order submission, order inquiry, order completion and posting to the customer service record.

ORDERING & PROVISIONING FUNCTIONS: POTS AND NON-POTS PRODUCTS

Product and Service Selection

For U S WEST retail orders, based on the customer request, the U S WEST representative uses the SONAR internal interface to select from a list of POTS services and products, including lines, features,

maintenance and other services and equipment. Each service or product has a unique code and an associated fee. The list of products presented to the internal representative includes only those available at the current customer location (based on the central office).

For CLECs, the IMA interface uses the same POTS service and product code information displayed in SONAR to provide the CLEC the ability to enter service and product codes from a list. The list provided also includes only those POTS services and products available for a specific NPA/NXX.

For non-POTS services, both the U S WEST retail representative and the CLEC representative must use manual procedures to determine the product and service code information. Both U S WEST and CLEC representatives are provided with a job aide containing the product and service code information.

Customer Listing Creation

The U S WEST retail representative must specify whether the customer desires to appear in the white page directory and whether the customer desires the telephone number be provided through directory assistance. The customer listing includes specific information on how the customer name should appear. For simple listings, the U S WEST representative enters the customer listing information into SONAR. A complex listing is one that requires special indenting and formatting. For complex listings, the U S WEST representative forwards the information, via facsimile, to the internal Operator Information Services (OIS). A representative from this group then enters the information directly into the Listing Services System (LSS).

The IMA interface enables the CLEC to enter and process both simple and complex customer listing information. The ISC transmits complex listings to the internal Operator Information Services (OIS) group for entry directly into LSS.

Billing Information Establishment

With the entry of a U S WEST order for new service, a billing account must be established. Billing account information includes mailing information to direct the bills for monthly charges to the responsible individual at the correct address. The U S WEST retail representative enters the customer's billing name, service address and mailing address number into SONAR for POTS, or IFE for non-POTS service orders.

Although the establishment of billing information for a U S WEST end-user customer has some similarities with the establishment of billing information for a CLEC, they differ in the data that is actually collected. The U S WEST retail unit must enter end-user billing information, because U S WEST bills the end-user for service. Since the CLEC will maintain end-user billing information in its own system and bill its end-users in a manner it considers appropriate, the CLEC must select previously-defined billing information so U S WEST can bill the CLEC for the service.

Prior to the entry of any CLEC order, a billing account (summary bill account) must have been previously established with U S WEST. The CLEC administrator enters the summary billing account number in the CLEC profile. This summary billing account number is then entered as part of the Local Service Request (LSR) form.

U S WEST produces reports for CLECs to support the administration of their accounts. These reports include information on completed service orders, which confirm for the CLECs when their customers' orders have

been successfully provisioned for service on U S WEST facilities. The completion report also tells the CLEC when it can begin billing the customer as its own. A completion report is provided for both new customers and service changes.

A loss report is provided to the CLEC when a customer terminates service and moves to another CLEC or back to U S WEST. CLECs receive disconnect order information on their completion reports. CLECs use the loss report to tell them to stop billing a customer. (Refer to the Order Completion section for additional completion and loss report details.)

Summary Information Review

The U S WEST retail representative views the negotiated service order and reviews it with the customer to make sure it is accurate. The U S WEST representative uses SONAR, or IFE, to review the order and make necessary modifications. When the customer verifies the order, the U S WEST representative enters a function key to proceed.

The CLEC representative can also review order summary information with the customer to make sure it is accurate. Once LSRs have been transmitted, they can be retrieved and reviewed by the CLEC representative. Even partially entered LSRs can be saved, and later retrieved using IMA.

Order Storage and Retrieval

The U S WEST retail representative has the ability to place an unfinished or finished service order in a held "pending" status instead of submitting the service order. The retail representative can use either the order number or the telephone number on the order to later retrieve the held

order. A "pending" service order can be retrieved, edited, completed, or submitted for 30 calendar days.

When the CLEC representative has begun to enter the LSR and chooses to save the partially entered order for retrieval at a later time, the LSR is placed in a pending state (IMA status "pending"). The LSR can be reviewed, edited, re-saved, submitted, or purged from the system for 30 calendar days.

Order Submission

When the customer accepts the order, the U S WEST retail representative submits the order for processing. The submitted service order is sent from SONAR to the Service Order Processor (SOP) for further processing and provisioning. In the case of a non-POTS service, the orders are sent from IFE to the SOP. However, SONAR and IFE do not support all products. For POTS, if SONAR does not support the product being offered, the representative sends an email message to the order center where an order typist retypes the information directly into the applicable SOP (creates a service order). For designed services, the representative types the information in the SOP.

At this stage, the CLEC representative submits the LSR for processing. The IMA interface allows the CLEC representative to know that an LSR has been transmitted to U S WEST (IMA status "submitted"). Once the U S WEST ISC representative has reviewed the LSR (IMA status "in review") and successfully translated the LSR into a service order, it is submitted (IMA status "issued") to the SOP. Once issued, the CLEC is sent a Local Service Request Confirmation (LSRC, also known as a Firm Order Confirmation (FOC)). If an order contains errors (IMA status "errored"), the ISC representative attempts to contact the CLEC to correct

the order and meet the scheduled commitment date prior to rejecting the order (IMA status "rejected"). If the due date for a particular order is in jeopardy of being met, the ISC can enter a jeopardy notification into IMA and send the notification to the CLEC (IMA status "jeopardy"). If the order is not corrected in time to meet the commitment date, the ISC will reject the order (IMA status "rejected"). If U S WEST rejects the order, a reject notification is returned detailing the reasons for order rejection. Once the order has been issued, an LSRC can be returned electronically (via E-mail) or by facsimile.

Supplemental Order Submission

The original service order is corrected or canceled by the issuance of a supplemental service order. The U S WEST representative corrects the submitted service order, in the SOP or in SONAR, and a supplemental service order is then generated.

The IMA interface allows the CLEC representative to create supplemental orders, and even recalls the original order when an IMA generated-order needs modification. Only the fields being modified/supplemented need to be completed. Supplemental orders submitted via IMA are processed in the same manner as the original order, including sending the CLEC an LSRC (also known as an FOC). An LSRC is generated and returned to the CLEC upon successful entry of the supplemental order in the SOP. This LSRC is in addition to the LSRC generated from the original service order.

Order Inquiry

A U S WEST retail representative may inquire about the status of a pending service order by retrieving the order and reviewing it with the customer. The representative enters the telephone number or order

number in the SOP and the service order is retrieved. The order can also be viewed and status checked using the Work Force Administration - Dispatch Out (WFA-DO) system. The status available in WFA-DO is the status of the order in the assigned technician work log. In the case of a non-POTS service, the Event Tracker system can also be used to view the service order status.

The CLEC representative can inquire about the status of an order using IMA. As the order progresses through the order submission and order process phases, the order status is updated in the IMA Firm Order Management (FOM) database.

Order Completion

Both U S WEST-generated and IMA-generated service orders are processed in the same manner once the orders enter the SOP. The SOPs and the various provisioning systems receive and process the service order. Upon successful completion of provisioning, the service order is updated and the status is changed to "complete" in a nightly batch run. Service order data is extracted from the SOP and used to generate both the completion and loss reports. Both U S WEST and CLECs receive loss reports. For U S WEST, this report provides information on its customers that transferred to a CLEC or disconnected service with U S WEST. For a CLEC, this report provides information on its customers that transferred service to another CLEC, have returned to U S WEST, or disconnected service with the CLEC. The completion report is produced, for CLECs only, to detail those customers that were successfully transferred to the CLEC or established new service. At the same time, this information is used to update the status of a CLEC order in the IMA FOM database to "complete." U S WEST retail does not receive any

proactive order completion information. Both of these daily reports are transmitted electronically via direct connect Network Data Mover (NDM), dial-up NDM or electronic facsimile.

Posting to Customer Service Record

Once either a CLEC or U S WEST service order is provisioned, its internal status is changed in the SOP to "complete" in a nightly batch run. All completed service orders are sent to the billing system, CRIS. After the billing related information is updated in CRIS, the service order information is sent nightly to the system that presents the customer service record, BOSS/CARS.

ORDERING & PROVISIONING FUNCTIONS FOR UNBUNDLED NETWORK ELEMENTS

Because there is no retail analogue for the ordering and provisioning of unbundled network elements, there is no internal U S WEST legacy systems to compare with the provisioning of UNE LSRs submitted using IMA.

Unbundled Loop

The basic course of managing and completing an unbundled loop is similar to that of non-POTS products however, differences do exist. For example, the processing of an unbundled loop order does not include the selection of a telephone number or the listing of customer information. There are nine major functions included in the ordering of an unbundled loop: billing information establishment, summary information review, order storage and retrieval, order submission, supplemental order submission, order inquiry, order completion, and posting of the CSR.

Error Process

U S WEST detects errors on CLEC's LSRs and notifies the CLEC in one of two ways. The first type of error is the one that is detected and has notices generated by the IMA/EDI architecture. These error notices are transmitted via an EDI error transaction to the CLEC. An example of this type of error is when a required field is not populated or is populated with data in an invalid format (EDI transaction set 855/FATAL or 855/LNPFATAL).The second type of error is detected by the Interconnect Service Center which transmits an order to the CLEC via an EDI error transaction. These types of errors are those that have been identified after the request has passed the initial IMA/EDI architecture error edit process. For example, if the end-user name, telephone number and/or address are inconsistent with the information retrieved contained in U S WEST's OSSs, an error message will be sent to the CLEC (EDI transaction set 855/NONFATAL or 855/LNPNONF).

2. REPAIR TROUBLE REPORTING PROCESS

Overview of Electronic Bonding for Repair Functions

Currently, Electronic Bonding – Trouble Administration (EB-TA) enables CLECs to submit trouble tickets for POTS, design services, and unbundled loop facilities. EB-TA uses CMIP (Common

Management Information Protocol) to access functions of the MEDIACC (MEDIated ACCess) interface which, in turn, communicates to back-end repair OSSs such as LMOS (Line Maintenance Operations System). MEDIACC is an interface to the U S WEST repair systems which has been used for years by interexchange carriers to submit trouble tickets. MEDIACC similarly enables CLECs to submit trouble tickets.

Both IMA and EB-TA use MEDIACC to access repair functions in U S WEST's OSSs. By accepting commands from IMA, thehuman-to-computer interface, MEDIACC supports a human-to-computer interface. By employing a CMIP interface, MEDIACC also accepts commands from CLECs' OSSs to support a computer-to-computer interface.

The Electronic Bonding interface to MEDIACC currently supports the following repair functions for trouble tickets: (1) create trouble ticket, (2) inquire on a trouble ticket (3) modify a trouble ticket, (4) receive active notification of status changes, (5) cancel a trouble ticket, and (6) receive active notification of close out status. To use the EB-TA repair functions, a CLEC must deploy its own OSSs that provide inputs,

outputs and logic surrounding the CLEC's use of the EB-TA repair function.

Create a Trouble Ticket

To use the EB-TA function to create a trouble ticket, the CLEC must input into its OSSs information about the customer line and the nature of the trouble. The CLEC's OSS then formats the data according to the CMIP protocol and sends it to MEDIACC, which sends it to LMOS to invoke the LMOS function to create a trouble ticket.

Inquire, Modify or Cancel a Trouble Ticket

Similarly, requests from a CLEC's OSS to obtain status information on a ticket, or to modify or cancel a ticket, require the CLEC to input into its OSSs the required information, format it and send it to MEDIACC via CMIP. In the case of an inquiry, MEDIACC maintains current information on the ticket, which it sends back to the CLEC's OSS via CMIP. To modify or cancel a ticket, MEDIACC takes information from the CLEC's OSS and forwards certain required information to LMOS. LMOS then performs a transaction to add a subsequent report, identifying the ticket as modified or cancelled.

Receive Active Notification of Trouble Ticket Status Change

The EB-TA interface actively notifys CLECs of certain ticket status changes. The active notification function relies on the capability of

LMOS to automatically notify MEDIACC of changes in the status of a trouble ticket. MEDIACC forwards this automatic notification to the CLEC's OSS via CMIP.

Close a Trouble Ticket

When U S WEST has resolved the repair order, the trouble ticket status is changed to cleared, then closed in LMOS. MEDIACC receives both notifications and formats the data relating to these status changes. This combined information is then sent to the CLEC's OSSs via CMIP. This information indicates the cause of the trouble, how long the service was impaired, when it was restored, and if billing charges could apply.

Error Process

There are two types of errors which can be sent to the CLEC for repair processing. Both types of errors are detected and have notices generated by EB-TA. The first type of errors is the T1M1 standards errors which relate to EB-TA business functions. For example, a T1M1 error will be sent to the CLEC if the CLEC sends a create transaction without all the required attributes. The second type of error occurs after the trouble ticket passes the trouble administration business function rules. This type of error is a transaction-level error usually associated with data values, data formats and implementation

agreement violations. An example of this type of error is when an optional attribute is not populated according to the rules of the implementation agreement. As when the telephone number contains dashes and the implementation agreement calls for only digits.

IMA Training Schedule
as of
April 22, 1999~~March 25, 1999~~

Date	Where
04/09/99	Minneapolis
04/16/99	Denver
04/23/99	Phoenix
05/07/99	Portland
06/11/99	Denver

Training IMA Attendance - 1999

	CLEC Staff				
Date	CLECs	Demo	Training	Others	Location
~~18-Jan-99~~				~~11~~	~~Denver~~
~~21-Jan-99~~	~~1~~			~~8~~	~~Washington~~
~~26-Jan-99~~	~~8~~		~~18~~	~~7~~	~~Denver~~
~~1-Feb-99~~	~~1~~		~~13~~		~~Denver~~
~~3-Feb-99~~				~~10~~	~~Denver~~
18-Jan-99				11	Denver
21-Jan-99	1			8	Washington
21-Jan-99	1			5	Denver
26-Jan-99	8		18	7	Denver
27-Jan-99	1		5		Salt Lake City
1-Feb-99	1		13		Denver
3-Feb-99				10	Denver
4-Feb-99	5		11		Minneapolis
5-Feb-99	3		5		Minneapolis
6-Feb-99	1		6		Missoula
24-Feb-99	1		5		Denver
26-Feb-99	1		7		Tampa
12-Mar-99	7		12	3	Denver
19-Mar-99	6		9	2	Denver
20-Mar-99	1		5		Denver
22-Mar-99				20	Denver
23-Mar-99				21	Denver
16-Apr-99	6		15	5	Denver
Total~~Total~~	43~~10~~		111~~31~~	92~~36~~	

Training IMA Attendance - 1998

	CLEC Staff				
Date	CLECs	Demo	Training	Others	Location
06-Jan-98	4		6		Denver
08-Jan-98		1		7	Denver
15-Jan-98		2			Minneapolis
20-Jan-98		15			Denver
26-Jan-98		8			Denver
30-Jan-98		8			Columbia, MD
05-Feb-98	4		12		Minneapolis
06-Feb-98	4		10	2	Minneapolis
13-Feb-98	2		2	1	Denver
16-Feb-98	1		6		Sioux Falls, SD
18-Feb-98		7			Helena, MT
19-Feb-98	1		6		Portland, OR
27-Feb-98	3		3	9	Denver
09-Mar-98				12	Denver
17-Mar-98	1	8			Denver
18-Mar-98	1		10		Denver
19-Mar-98	1		2		Portland, OR
20-Mar-98	6		10		Portland, OR
27-Mar-98	1		10		Denver
23-Apr-98		15			Bismarck, ND
25-Mar-98	1		2		Denver
02-Apr-98	5	11		10	Denver
03-Apr-98	15		23		Denver
10-Apr-98	1		13		Bend, OR
15-Apr-98				11	Minneapolis
28-Apr-98		15			Colorado Springs
29-Apr-98		15			Colorado Springs
01-May-98					Cedar Rapids, IA
07-May-98				3	Denver
08-May-98	2		7		Denver
11-May-98	4		4	1	Seattle
14-May-98	6		13		Minneapolis
15-May-98	4		8		Minneapolis
15-Jun-98	1		6		Sioux Falls, SD
18-Jun-98	3		3	3	Denver +
19-Jun-98	7		12	1	Denver
22-Jun-98	6		12	2	Denver +
23-Jun-98	4		18		Denver +
09-Jul-98	6		9		Helena, MT

Training IMA Attendance - 1998

	CLEC Staff				
Date	**CLECs**	**Demo**	**Training**	**Others**	**Location**
13-Jul-98	3		4	5	Denver
20-Jul-98				10	Denver
21-Jul-98				14	Denver
31-Jul-98	6		12	3	Phoenix, AZ
07-Aug-98	4		7		Denver
11-Aug-98	1		12	4	San Antonio
14-Aug-98				18	Denver
19-Aug-98	1		14		Lincoln, NE
24-Aug-98	4		8		Dallas, TX
26-Aug-98	1		8		Baltimore
01-Sep-98	1		10		Denver
15-Sep-98	2		2		Denver
16-Sep-98	4		13		Minneapolis
17-Sep-98	1		2		Minneapolis
18-Sep-98	4		10		Denver
21-Sep-98	4		14		Denver+
04-Oct-98		47			Denver
08-Oct-98	4		5		Denver
13-Oct-98				2	Denver
15-Oct-98	5		10		Des Moines
16-Oct-98	1		9		Sioux Falls, SD
16-Oct-98	3		4		Denver
29-Oct-98	15		26		Denver
04-Nov-98	9		19		Minneapolis
10-Nov-98	5		12		Seattle
20-Nov-98	8		12	3	Phoenix
33	67	105	147	56	

Training IMA Attendance - 1997

	CLEC Staff				
Date	CLECs	Demo	Training	Others	Location
16-May-97	1	2		1	Denver
20-May-97				17	Denver
21-May-97	1		19	4	Denver
30-May-97	1		6	2	MCI - Denver
06-Jun-97	2	8		10	Denver
17-Jun-97	1	5			Denver
18-Jun-97	1		8	3	Denver
23-Jun-97	1		16	1	Denver
24-Jun-97	1		9		Portland
25-Jun-97					Portland
26-Jun-97					Portland
27-Jun-97	1	10			Cedar Rapids
04-Jul-97		2			Phoenix
09-Jul-97		3			Denver
23-Jul-97	2		4	8	Denver
07-Aug-97				18	Denver
12-Aug-97	3		13	12	Denver
13-Aug-97	1	5		25	Denver
14-Aug-97					Denver
14-Aug-97	22	60			Denver
27-Aug-97				7	Denver
02-Sep-97		8			Denver
15-Sep-97				7	Denver
17-Sep-97				19	Denver
22-Sep-97	4		11	5	Denver
23-Sep-97	26	30		6	Denver
24-Sep-97		4			Denver
25-Sep-97	2		3		Denver
08-Oct-97		20			Denver
21-Oct-97	1	13		4	Denver
24-Oct-97				11	Denver
28-Oct-97				6	Denver
31-Oct-97	4		10	2	Denver
03-Nov-97	1		7	2	Denver
19-Nov-97		10			Boulder
21-Nov-97	3		6	1	Denver
02-Dec-97	1		1		Green Bay
03-Dec-97			5		Green Bay
04-Dec-97			12		Minneapolis

Training IMA Attendance - 1997

	CLEC Staff				
Date	**CLECs**	**Demo**	**Training**	**Others**	**Location**
08-Dec-97		15		2	Denver
08-Dec-97	3		10	1	Denver
15-Dec-97				7	SLC
16-Dec-97					SLC
18-Dec-97				8	Denver
Total	83	195	140	189	

USWEST IMA TRAINING & SERVICES TEAM
1005 17TH ST. RM 1690
DENVER, CO 80202

Interconnect Mediated Access

Urgent Fax

To:	Darlene Maurer	**Company:**	U S WEST
Fax:	1-(303) 965-8936	**Pages:**	3
Phone:	(303) 896-3128	**Date:**	February 26, 1999
Re:	IMA Release 4.0 & Java Plug-in	**From:**	IMA Training & Services Team

- **Comments:**

INTRODUCTION:

The Interconnect Mediated Access Group will be implementing an upgrade of the IMA software beginning on Friday, March 26 at 8:00 PM (MST). Notification regarding system availability will be out one week prior on March 19. The Release Notes for IMA version 4.0 will be available on Friday, March 5 on the IMA Information Website, which is a menu option on the IMA menu. The release notes offer an overview of the changes; more detailed information will be contained in the User Guide which will be updated and made available on the LSP Information Website by March 26, 1999.

ENHANCEMENTS:

The use of a Java Plug-in will allow you to use an upgraded version of Netscape Communicator 4.08 as a browser for the GUI. IMA Release 4.0 will continue to support Navigator 3.01 as well. We are including a summary of options at the end of this fax to assist you further.

IMPORTANT:

- To run IMA 3.3 please continue to use Netscape Navigator 3.01.
- To run IMA 4.0 the Co-Provider has the option of upgrading the Netscape browser to Netscape Communicator 4.08.
- **The Java Plug-in is required for Netscape Communicator 4.08 as well as Navigator 3.01 for release 4.0.**

If you download Netscape Communicator 4.08 and the Java Plug-in before release 4.0, you will need to be able to run both Netscape Navigator 3.01 (otherwise you will not be able to run 3.3).

COMMUNICATOR 4.08 DOWNLOAD:

1. http://home.netscape.com/download/index.html - to Netscape Product Page. **NOTE:** Do not be misled by Netscape **Navigator 4.08** on the **Netscape Product page.** You want **NETSCAPE COMMUNICATOR 4.08.**
2. Scroll down to heading, "DOWNLOAD NETSCAPE BROWSER AND ACCESSORIES".
3. Select **Communicator 4.0 professional.**
4. "Choose Operating System for Communicator 4.0 professional" comes up. Follow instructions (Steps 1-4).

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Interconnect Mediated Access

5. We recommend saving this to your desktop.

To Install Communicator 4.08:

1. Run install executable you saved from download.
2. When the installation program prompts you for a destination directory do **NOT** accept the default (C:\Program Files\Netscape\Communicator)
3. Instead specify C:\Program Files\Netscape408\Communicator as the destination directory
4. Take default for any questions asked and say RESTART to restart now.

JAVA PLUG-IN DOWNLOAD INFORMATION:

The Java Plug-in is a new product from Sun Microsystem's Java software division. The Java Plug-in delivers full Java Compatible ™ support for JDK ™ 1.2, enabling enterprises to develop and deploy Java applets that take full advantage of the latest capabilities and features of the Java platform and be assured that their applets will run reliably and consistently.

For your convenience we have provided access to the Java Plug-in download page in two locations (1 and 2 as follows). Both locations provide the same information. Downloading directly via the Internet (option #1) may be a faster connection depending on your connection to the Internet. NOTE: If you choose to upgrade to Netscape Communicator 4.08 prior to the release weekend (and run concurrent versions), then install the Java Plug-in after installing 4.08; if you download Netscape 4.08 after installing the Java Plug-in, you must re-install the Java Plug-in.

1. The **Carrier Internet Index** web page is external to US WEST. The Co-Provider can access this web page without dialing in through the firewall.

- The URL for the Carrier Internet Index web page is: http://www.uswest.com/carrier
- Select Interconnect & Resale Resource Guide; here you will find a link JAVA PLUG-IN DOWNLOAD PAGE
- Click on this link to the download page and follow the instructions

2. The **LSP Information Website**

- Access IMA and the Interconnect Function Screen (menu screen)
- Select LSP Information Website
- Select JAVA PLUG-IN; this will take you to the download instruction page and follow the instructions

NOTE: The compressed Java Plug-in download is approximately 10 MB. After decompression and installation, Java Plug-in uses approximately 20 MB of hard disk space. The download process could take between 22-55 minutes for the dial-up connection.

Since the Java Plug-in is needed to access IMA 4.0 there may be an increased number of users downloading the Java Plug-in on the day of the release. This could effect download time, which is another reason to download and run concurrent versions prior to the release weekend. This downloading cannot occur during the implementation weekend from 8 PM (MST) on 3/26 until 3/29 6 AM (MST)

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Interconnect Mediated Access

As a safety, if the Java Plug-in has not been installed when the Co-provider launches 4.0 for the first time, a "Plug-in Not Loaded" screen will display. At that time, the Co-Provider will be required to download the Java Plug-in. There is a link on that screen. It reads "Click here to go to the install page". Click on this link, go to install page and follow the instructions.

SUMMARY OF OPTIONS:

IF YOU CAN RUN CONCURRENT VERSIONS OF NETSCAPE:

NOW:

- download and install Netscape Communicator 4.08(follow instructions above)
- download and install Java Plug-in
- continue using **Netscape Navigator 3.01to run IMA**

At time of IMA release 4.0:

- START USING NETSCAPE COMMUNICATOR 4.08 TO RUN IMA

IF YOU CHOOSE NOT TO RUN CONCURRENT VERSIONS AND CONTINUE WITH NETSCAPE NAVIGATOR 3.01 WE RECOMMEND:

NOW:

- download and install Java Plug-in
- download Netscape Communicator 4.08 **(download ONLY, do NOT INSTALL)**
- Continue using **Netscape Navigator 3.01**

At time of IMA release 4.0:

- **INSTALL** Netscape Communicator 4.08
- re-install Java Plug-in
- start using Netscape Communicator 4.08

To verify that all users have received this information, upon receipt of this fax, please e-mail to Teresa Stuart, txstuar@uswest.com, your name, name of company with the topic "Java Plug-in Notification

Received" by March 5, 1999.

In the future we would like to communicate these notifications via email. In your e-mail response, please include an additional email address from your company to be placed on an IMA distribution list. If you have issues with this please contact us using the above address.

If you have any questions please call the IMA help desk at 1-888-796-9102, and as always thank you for your cooperation and patience throughout these system enhancements.

Barbara "Pete" Peterson
IMA Training and Services Manager (303-896-2705)

US*WEST* IMA TRAINING & SERVICES TEAM
1005 17TH ST. RM 1690
DENVER, CO 80202

Interconnect Mediated Access

Urgent Fax

To:	Darlene Maurer	**Company:**	**U S WEST**
Fax:	(303) 965-8936	**Pages:**	1
Phone:	**(303) 896-3128**	**Date:**	March 19, 1999
Re:	Release 4.0 – **1 Week Notification**	**From:**	IMA Training & Services Team

- **Comments:**

The Interconnect Mediated Access group will be implementing an upgrade of the IMA software beginning on Friday, March 26, at 8:00PM (MST).

The release notes for IMA version 4.0 were available Saturday, March 6, 1999, on the LSP Information Website, which is a menu option in IMA. The release notes offer an overview of the changes for release 4.0. More detailed information will be contained in the User and Repair Guides, which will be updated and made available on the LSP Information Website by March 26, 1999.

Additionally, a fax notification was sent out February 26, 1999, regarding IMA Release 4.0, the Java Plug-in and Browser Upgrade. This instructional notification has been placed in the News section on the LSP Information Website AND a reminder about this also appeared on the IMA Pop-up window that displays when you first log in to IMA.

If you would like to be updated on Saturday, March 27, regarding the status of the upgrade, please page Teresa Stuart at (800) 759-7243 PIN 220-6363.

As always, for system questions please contact our help desk at (888) 796-9102.

Thank you,

Barbara "Pete" Peterson
IMA Training & Deployment Manager
bpeters@uswest.com
(303) 896-2705

USWEST IMA TRAINING & SERVICES TEAM
1005 17TH ST. RM 1690
DENVER, CO 80202

Interconnect Mediated Access

Urgent Fax

To: Darlene Maurer **Company: U S WEST**

Fax: (303) 965-8936 **Pages:** 1

Phone: (303) 896-3128 **Date:** March 31, 1999

Re: 4.0 Release Updates **From:** IMA Training & Services Team

- **Comments:**

On March 26, Interconnect Mediated Access deployed IMA Release 4.0. The release notes for version 4.0 as well as the User Guide for version 4.0 are available on the LSP Information website. Please read the information in the User Guide and make sure your desktop environment is consistent with the listed Desktop Requirements. The following additional information is related to the 4.0 release:

1. As you know, installing the Java Plug-in allows you to upgrade Netscape browser 3.01 to Netscape Communicator 4.08. Each time you access the IMA application, the Java Plug-in or Netscape puts a copy of the jar file in the computer temp directory. The file name copied appears as **jar_cachexxxxx.tmp.** (where x = number). The file is copied from the browser cache to one of two locations:
   1. Window NT: C: \Temp (on a Windows NT workstation)
   -or-
   2. Windows 95: C: \Windows\Temp (on a Windows 95 workstation)

These files are 2.4mb in size. They will add up over time, which will take memory space on your disk. The files in the temp directory should be removed. Look in the appropriate file listed for your workstation type and periodically delete those copied jar files.

2. If you receive an error message for invalid USOCs, our recommendation is that you first perform a Service Availability Query from the Preorder option to validate that this USOC is available to you as a reseller. If the USOC is not listed and you believe this to be an error, contact your Account Manager to reconcile this issue. Also, remember that on the Resale form USOCs are entered in the **FEATURE** field, and FID's plus the english description are entered in the **FEATURE DETAIL** field.

3. Users who install the Java Plug-in on a Windows NT workstation must have administrative rights to that workstation or an error will occur. If the Java Plug-in is installed on a Windows NT system by a user without administrative privileges, only a portion of the installation completes properly. This will be indicated by a small window with no title and no messages. The only functional items on the window are the Close button (x) in the upper right corner and an "OK" button in the center. Clicking the "OK" button will close that netscape session. If this situation occurs, an adminstrative-privileged user must reinstall the Java plug-in.

As always, for system questions please contact our help desk at (888) 796-9102.

Barbara "Pete" Peterson
IMA Training & Deployment Manager
bpeters@uswest.com
(303) 896-2705

USWEST IMA TRAINING & SERVICES TEAM
1005 17TH ST. RM 1690
DENVER, CO 80202

Interconnect Mediated Access

Fax Update

To:	Darlene Maurer	**Company: U S WEST**	
Fax:	(303) 965-8936	**Pages: 1**	
Phone: (303) 896-3128		**Date:**	April 9, 1999
Re:	IMA Desk Top Requirements	**From:**	IMA Training & Services Team

INTERCONNECT MEDIATED ACCESS (IMA) - DESKTOP REQUIREMENTS

Windows95 vs Windows98

It has been brought to our attention that some users are interested in using IMA on desktops that run Windows98.

We would like to reinterate that IMA is currently Windows95 compatible. We believe there are technical issues with running IMA in conjunction with Windows98. We strongly encourage you to continue to follow the IMA Desktop Requirements located in the IMA User Guide available on the LSP Information Website.

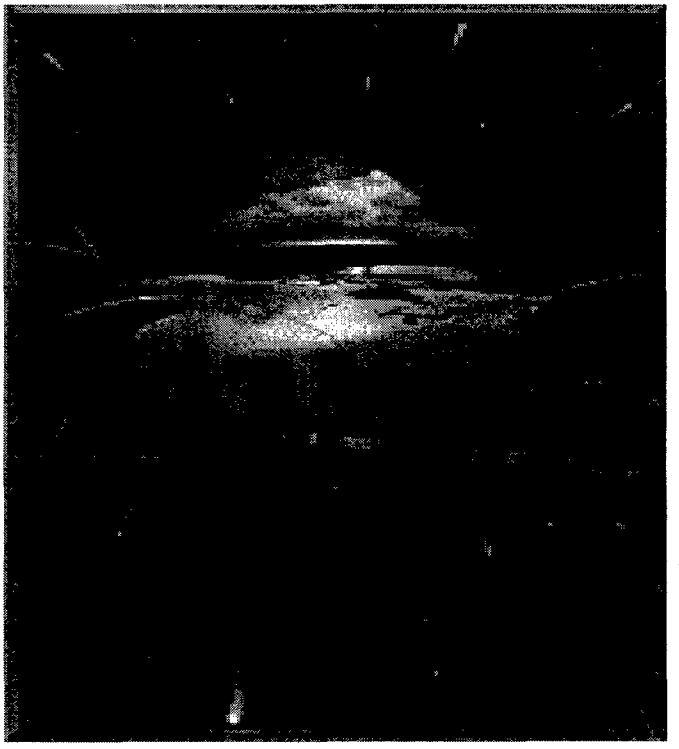
US WEST is currently evaluating the technical issues associated with IMA running on Windows98 and fully expects to resolve them and support the Windows98 environment by late this year.

We sincerely hope this clears up any confusion regarding this issue. If you have any additional questions, please contact our Help Desk at 1-888-796-9102.

Thank you,

Barbara "Pete" Peterson
IMA Training & Services Manager

Interconnect Mediated Access



Software Release Notes

Modification Date: March 4, 1999

This document was produced on behalf of the regulated interests of U S WEST Communications (USWC). Any use of this document by unregulated entities of U S WEST must be in accordance with the U S WEST Fair Compensation Policy, contact your compliance manager.

U S WEST Information Technologies, Inc.

Version Notice

Revisions of this document are listed in chronological order. There is no relationship between the document release number and the software release number.

Document Release	Date	Software Release
Release 1	3/04/99	4.0

Purpose of Document Release 1

The purpose of IMA Software Release Notes is to inform IMA users of enhancements made to the most recent software version, 4.0, to be implemented on Friday, March 26, 1999.

Document Ownership

Obtain additional copies of this document from the following organization:

IMA Documentation Project Manager
U S WEST Communications, Inc.
U S WEST Information Technologies
931 14th Street, Suite 120
Denver, CO 80202
(303) 624.1267

Document Owner	Susan Embry-Busch
Document Author	Lisa Benton Dommer

Important: *This document has been through a formal review process. To the best of our knowledge it is accurate. There may be further modifications and we reserve the right to make those modifications.*

Trademarks

General Overview

Purpose

The purpose of IMA Software Release Notes is to inform IMA users of enhancements made to the most recent IMA version, Release 4.0, to be implemented at 18:00 hours MST on Friday, March 26, 1999. The IMA User's Guide will accompany the release of IMA 4.0, with a more detailed explanation of how to use the new processes. The User's Guide will also provide definitions of any new field names.

Important:

In order to use IMA 4.0, the user must download a Java Plug-in. Downloading Netscape Communicator 4.08 is optional, but is suggested. To download Netscape Communicator 4.08, go to the World Wide Web at **http://home.netscape.com/download/download_1_3_101_1_4.08.html.** Follow the directions provided.

The user has two options for downloading the Java Plug-in:

1. Go to the World Wide Web at **http://www.uswest.com/carrier.**
   a. Select **Interconnect & Resale Resource Guide.**
   b. Select **Java Plug-in Download Page.** This link will take you to a page which contains the download plus instructions.
2. If the user is already logged in to **IMA:**
   a. Select **LSP Information Web site** from the **Interconnect Functions** window.
   b. Select **Java Plug-in.** This link will take you to a page which contains the download plus instructions.

Additionally, Co-Providers received a FAX from IMA February 26, 1999, describing how to download and install the Java Plug-in and Netscape Communicator 4.08. If you did not receive this FAX, please contact Teresa Stuart at 303-896-1803. This information will also be available in Chapter 2, "Desktop Requirements," in Release 4.0 IMA User's Guide.

Summary

There are several enhancements to IMA Software Release 4.0, as follows:

- Some navigation functionality has changed for navigation in the GUI.
- A Java Plug-in is provided when the user signs on to the IMA Co-Provider Web site. The Plug-in is supported by Netscape Communicator 4.08 to provide a browser product compatible with other U S WEST products.

- When the Java Plug-in is installed, the look of the IMA 4.0 GUI will change slightly, although the content of most of the windows will not change. For example, there is a yellow "Warning: Applet Window" bar at the bottom of each window. This message is of no concern to the user.
- Telephone numbers can be ported as ranges, allowing Co-Providers to request porting of large blocks of telephone numbers (TNs) at one time instead of having to enter each individual number.
- The Service Availability Query window (SAQ) now cross-references with the Co-Provider's contract to display USOCS that can be resold. On the Resale form, if the user submits a POTS, PBX, or ISDN order that has invalid USOCs, the order will be rejected.
- A Street Address Geographical Area (SAGA) field has been added to the Address Validation PreOrder function windows to resolve addresses that contain Zip Codes that span multiple SAGAs.
- If the Customer Service Record (CSR) associated with an order has a 'Final' status, IMA will automatically reject the request. The following error message will display: "No active account found matching the end user criteria for this service request". Except for new orders, all orders must have an 'Active' status CSR for the order to be processed.
- Interconnect Function menu enhancements include a Feature Verification option that enables Co-Providers to manually verify features associated with a telephone number. This enhancement assists Co-Providers with troubleshooting problems.
- The Modify Trouble Report Response window, found under the Repair option of the Interconnect Function menu, allows the user to verify that a trouble report ticket has been modified successfully.
- EDI enhancements are described later in this document.

Enhancements that directly affect users are described in subsequent sections of this document.

This information is to be disseminated to all users of IMA, including Co-Providers and U S WEST employees such as Help Desk personnel and system administrators.

Button and Field Information

The following changes have been made for navigation in the GUI:

- When the maximum character length of a field is filled in, the cursor automatically tabs to the next field.
- The user can scroll down the form by pressing the **tab** key which moves the cursor from field to field.
- If a field contains data and the user tabs to the field, the entire field will be highlighted. The user can then type to replace the existing data, or tab to the next field.
- Accelerator keys have been added to the menu items for convenient keyboard access, and for users who have difficulty with mouse accuracy. The accelerator keys are marked with the standard Windows underline. The keys can be used simultaneously by pressing the **ALT** key + the indicated character.
- If a window contains both **OK** and **Cancel** buttons, then a dialog box will appear asking, **Commit changes? Yes/No/Cancel**.
- **No** is the default for the **Yes/No** pop-up dialog box. Pressing **Enter** selects the **No** default.
- If the user is having problems with the GUI functionality, the font setting should be checked on the computer being used. IMA 4.0 requires the **Standard** windows desktop setting. Settings such as **Science** and **Nature** will disrupt the functionality of the GUI.
- Repeating sections in windows have enhanced keyboard navigation keys, as follows:

Key	Description	Function
Ctrl + Page Up	Page up	From page 1 of 2 to page 2 of 2
Ctrl + Page Down	Page down	From page 2 of 2 to page 1 of 2
Ctrl + Home	First item	Go to page 1 of x
Ctrl + End	Last item	Go to page x of x

Enhancements to IMA

- Some functionality changes for navigation – GUI
- Java Plug-in – GUI
- Modified window format – GUI
- Ported TNs accepted as ranges – GUI and EDI
- Query U S WEST systems for USOCs that can be resold – GUI and EDI
- New State fields for Service Availability Query – GUI and EDI
- Switch Supp (Switch Support), NDisc (Non-recurring Discount), and RDisc (Recurring Discount) are new fields for Service Availability Response – GUI and EDI
- USOC validation – GUI and EDI
- AN (Account Number) field for CSR Multiple Response window – GUI
- Validity check for CSR service requests – GUI and EDI
- SAGA field for Address Validation – GUI and EDI
- Interconnect Function menu Feature Verification option – GUI
- Modify Trouble Report Response window – GUI

Dissemination

The IMA Training and Services Team is headed by Manager Barbara Peterson, who is responsible for the dissemination of release notes. Any questions regarding release notes may be directed to her at 303-896-2705 or bpeters@uswest.com, or to members of her team.

Java Plug-in

A Java Plug-in has been added to IMA 4.0 to extend the capability of the browser. In order to use IMA 4.0, the user must download the Java Plug-in. Downloading Netscape Communicator 4.08 is optional, although it is suggested. A link to the Java Plug-in download, plus step-by-step instructions for installation, are located on the World Wide Web at **http://uswest.com/carrier.** Select **Interconnect & Resale Resource Guide,** then select **Java Plug-in Download Page.**

Additionally, Co-Providers have received a FAX from IMA on February 26, 1999, describing how to download and install the Java Plug-in and Netscape Communicator 4.08. If you did not receive this FAX, please contact Teresa Stuart at 303-896-1803. This information will also be available in Chapter 2, "Desktop Requirements," in Release 4.0 IMA User's Guide.This information will also be available in Chapter 2 of Release 4.0 IMA User's Guide.

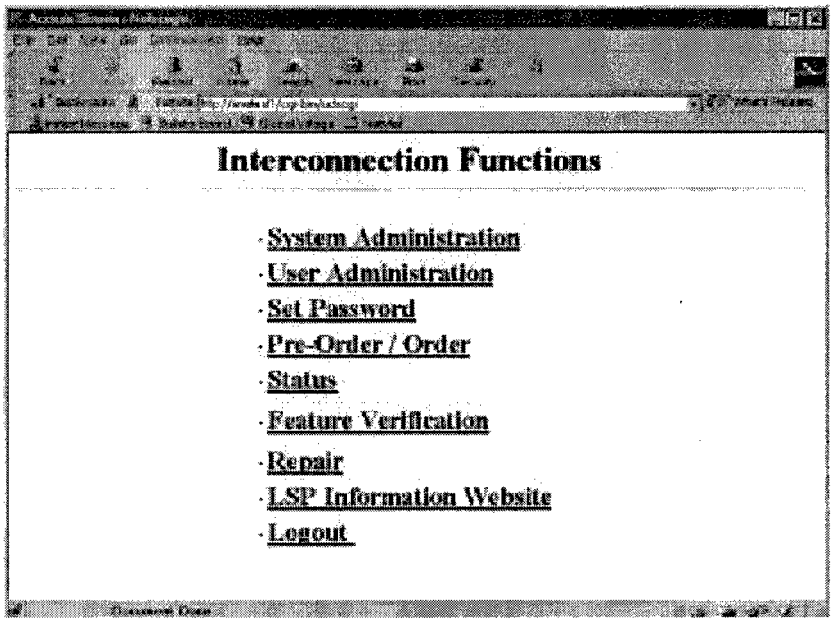
The Java Plug-in is available for installation when IMA 4.0 is launched for the first time. The Plug-in uses 20 MB of disk space and is needed to start IMA 4.0 PreOrder and Order GUI. The Plug-in can be downloaded and installed at any time and will not affect the operation of the current version of IMA.

Interconnect Function Menu Enhancements

The following Interconnect Functions menu enhancements have been added:

- Feature Verification
- Repair
  - Maintain Trouble Report
    - Modify Trouble Report Response

Interconnect Functions Menu



Feature Verification

Feature Verification lets the Co-Provider verify features associated with a TN to assist in troubleshooting problems. When a problem with service is reported, the Co-Provider can view the CSR information, along with the switch information, and verify that:

- the features that are active on the CSR are also active on the switch.
- the service in question is active on the CSR.

This function will be available for all 10-digit TNs, with the exception of ISDN service. Only one TN can be entered at time. A Co-Provider can only view information about a TN that is owned by that Co-Provider. Additionally, information will not be displayed for a TN with an open trouble report.

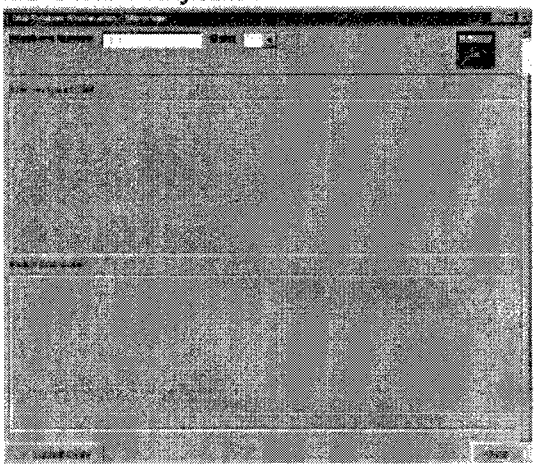
Note: The user can only open one Feature Verification window at a time.

The IMA Feature Verification window is comprised of the following:

- Telephone number
- State
- U S WEST icon
- S&E (Service and Equipment) Section of CSR
- Switch Information section
- Submit Query button
- Clear button

Note: Once the query is submitted, the U S WEST icon to the right of the State field remains animated until the queried data loads into the appropriate fields. To close out of the window, click the "X" in the top right corner.

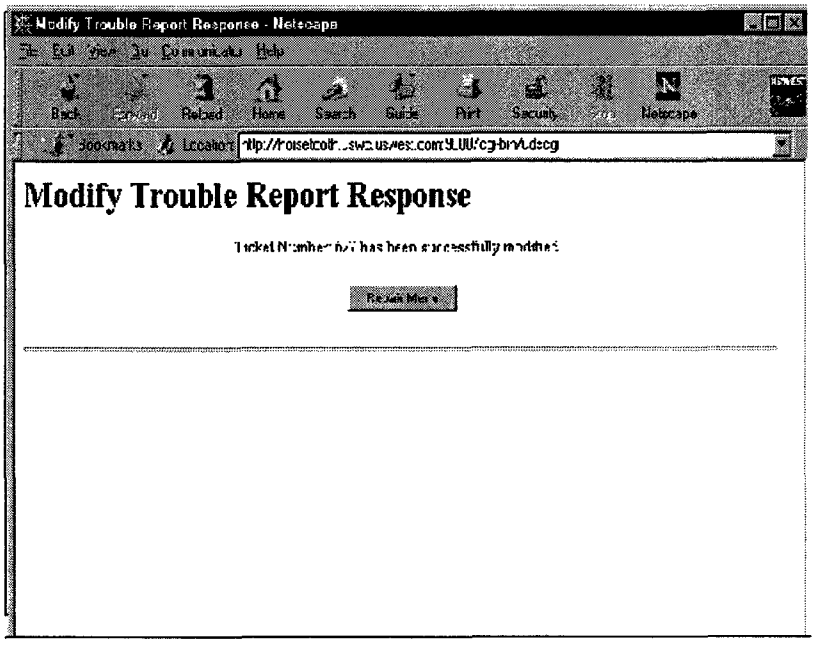
IMA Feature Verification



Trouble Report Ticket Information - Netscape

The Modify Trouble Report Response window is accessed from the Maintain Trouble Report option, modify button. This enhancement allows the user to find out if a trouble report ticket has been modified successfully. If the ticket has not been successfully modified, an error message displays which will prompt the user on what to do next.

Modify Trouble Report Ticket Response



PreOrder Enhancements

The following Pre-Order windows have been added or modified:

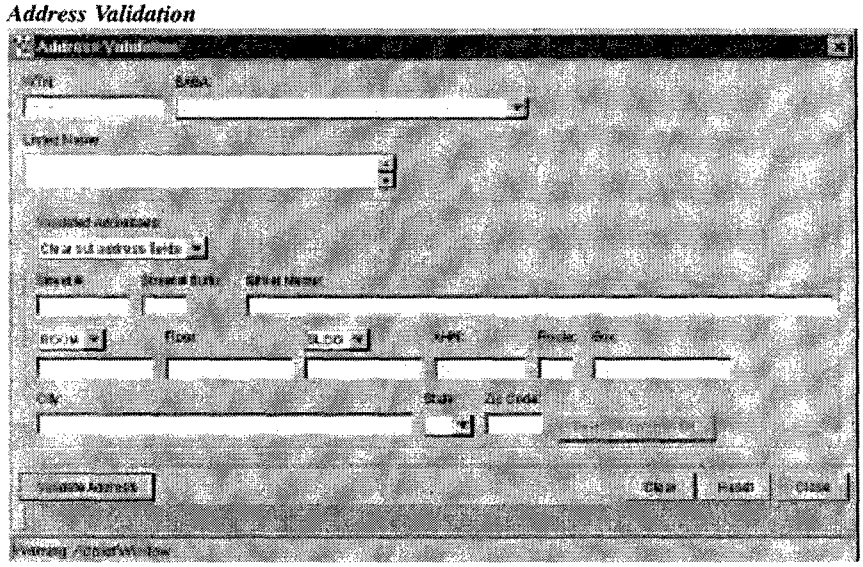
- Address Validation
  - Address Validation Query
  - Address Validation Response
  - Address Validation Multiple Match
  - Address Validation Near Match
  - Multiple SAGAs found. Select one.
- CSR Response - Multiple matches found. Pick one.
- Service Availability Query

Address Validation

A Street Address Geographical Area (SAGA) field has been added to the Address Validation window to resolve addresses that contain Zip Codes that span multiple SAGAs.

Note: The user should either select data in the SAGA field or input data in the Zip Code field. If both fields are used, the SAGA field data overrides the Zip Code data.

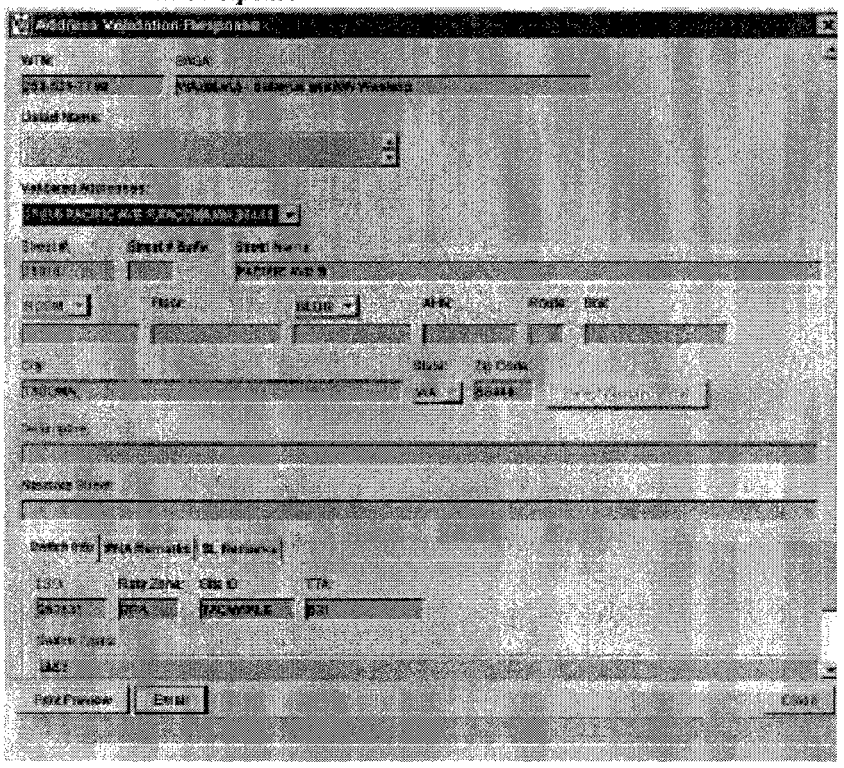
Address Validation



Address Validation Response

The addition of the SAGA field comprises the enhancement to the Address Validation Response window.

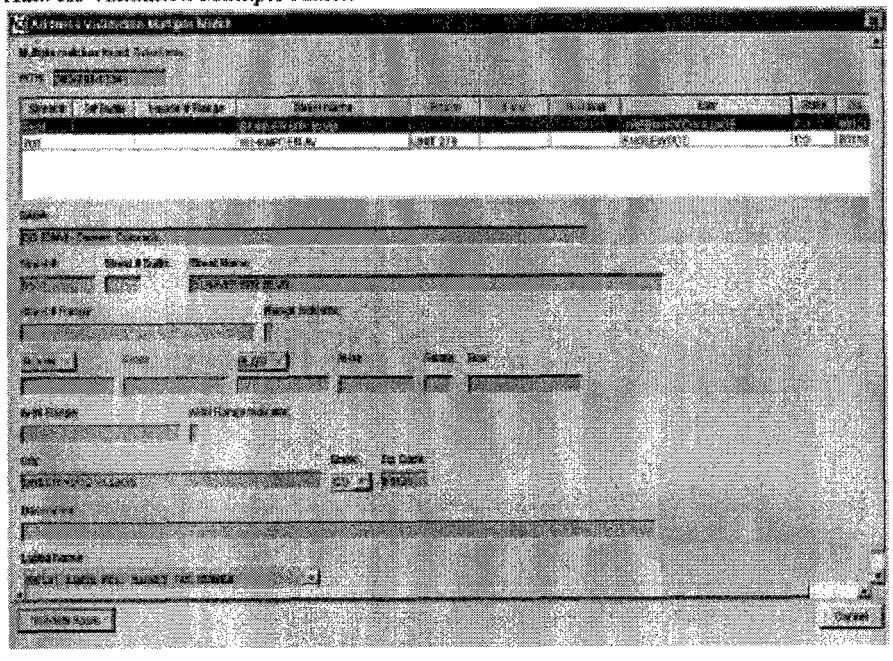
Address Validation Response



Address Validation Multiple Match

The addition of the SAGA field comprises the enhancement to the Address Validation Multiple Match window.

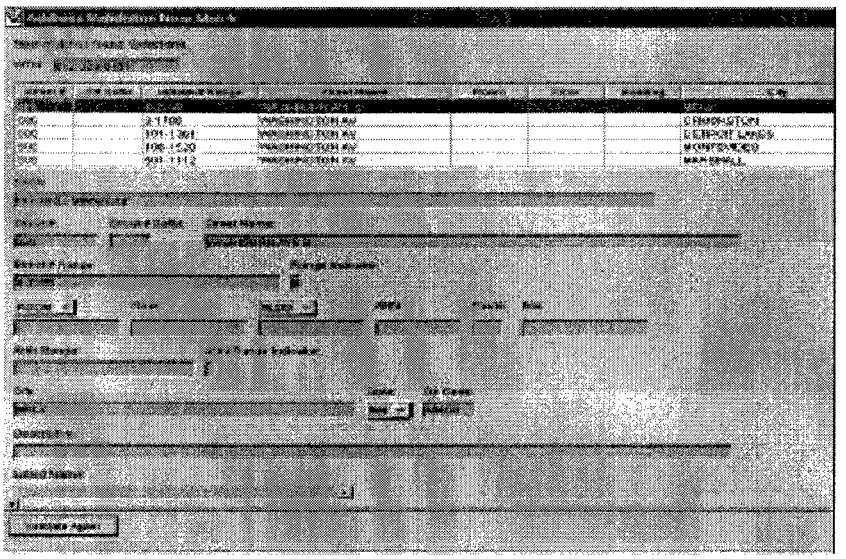
Address Validation Multiple Match



Address Validation Near Match

The addition of the SAGA field comprises the enhancement to the Address Validation Near Match window.

Address Validation Near Match



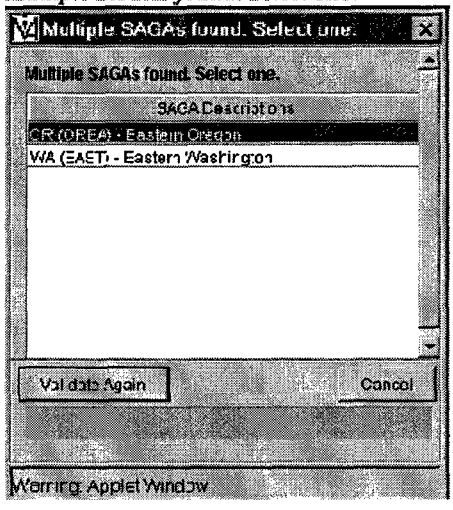
Multiple SAGAs Found. Select One

The addition of the Multiple SAGAs found. Select one. window informs the user when a Zip Code spans more than one SAGA.

The Multiple SAGAs found. Select one. window is comprised of:

- SAGA Descriptions
- Validate Again button
- Cancel button

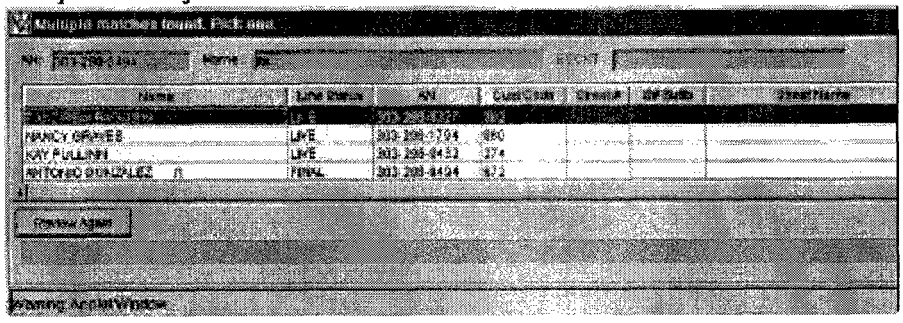
Multiple SAGAs found. Select one.



CSR Response - Multiple Matches Found. Pick One.

The AN (Account Number) table column comprises the enhancement to the Multiple matches found. Pick one. window.

Multiple matches found. Pick one.

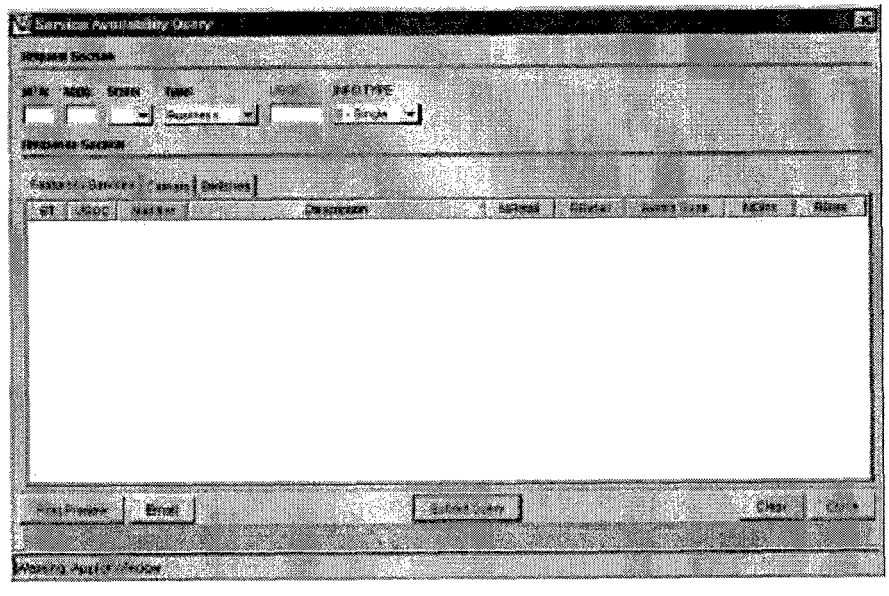


Service Availability Query

The following addition and deletion of fields comprise the enhancement to the Service Availability Query window:

- State is a new field.
- The Features tab has been renamed Features/Services.
  - ST (State) is a new column heading.
  - Switch Support is a new column heading.
  - NDisc (Non Recurring Discount %) is a new column heading.
  - RDisc (Recurring Discount %) is a new column heading.
  - NonRec column heading has been renamed NRetail (Non-Recurring Retail Rates).
  - Recur column heading has been renamed RRetail (Recurring Retail Rates).

Service Availability Query



Order Enhancements

The following Order enhancements have been added:

- The Order process now enables Co-Providers to request porting of large blocks of telephone numbers.
- If the user submits a POTS, PBX, or ISDN order that has invalid USOCs, the order will be rejected. Except for **Conversions As Is** orders, the following message error will display: "Invalid USOCs - problem with Validity, Resellability, State or Contract". A list of the invalid USOCs will be displayed after the error message.
- Except for new orders, all orders must have an 'Active' status Customer Service Record (CSR) for the order to be processed. If the CSR has a 'Final' status, IMA will automatically reject the request. The following error message will display: "No active account found matching the end user criteria for this service request".

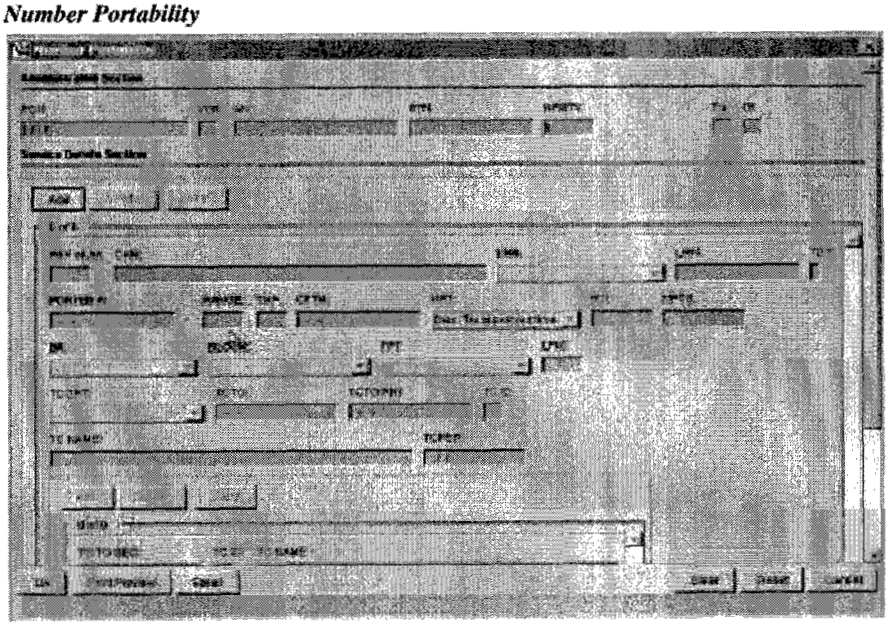
The following Order windows have been modified:

- Number Portability
- Loop Service with Number Portability

Number Portability

The Range field comprises the enhancement to the Number Portability window. This enhancement ports telephone numbers as ranges. Where a range is used on the request, only a single range may be specified. No other ranges or individual ported telephone numbers are permitted on that same request.

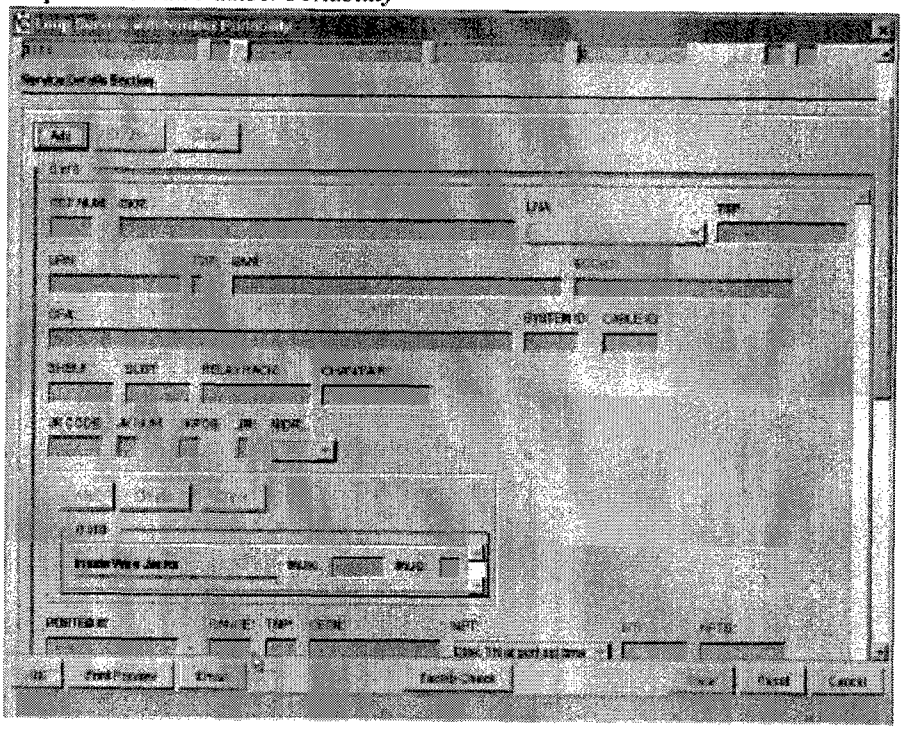
Number Portability



Loop Service with Number Portability

The Range field addition is not valid or applicable in the Loop Service with Number Portability window. Do not use this field.

Loop Service with Number Portability



EDI Enhancements

The following enhancements or modifications have been added to EDI:

- Ported TNs accepted as ranges
- SAGA field for Address Validation
- New State field for Service Availability Query
- Switch Supp (Switch Support), NDisc (Non-recurring Discount), and RDisc (Recurring Discount) are new fields for Service Availability Response
- USOC Validation on Order
- Validity check for CSR service requests
- Modified Firm Order Confirmation (FOC) I-Charts format
- Changes to I-Charts
  - Local Number Portability
  - Interim Number Portability
  - Completions—for Other Products
  - Firm Order Confirmation (FOC)
  - CSR—Multiple Response
  - Address Validation Query
  - Address Validation Response

IMA RELEASE 4.00
SYSTEM TEST REPORT

Teresa Jacobs
Project Director
(303) 896-1078

Barbara Cramer
System Test Manager
(303) 896-3747

For Further Information
Please Contact:

Ken Bass
System Test Execution Lead
(303) 896-6650

IMA RELEASE 4.00 SYSTEM TEST REPORT

IMA RELEASE 4.00 SYSTEM TEST REPORT

1 OVERVIEW

Interconnect Mediated Access (IMA) Release 4.00 was a major software development and testing effort. Formal processes were used throughout the entire development and test cycle, including the use of formal requirements, a Development Integration Test phase using controlled Software Configuration Management (SCM) software Builds, formal problem tracking using the ClearDDTS problem tracking system (beginning with the Development Integration Test phase), a formal handoff of software from the Development organizations to the System Test organization and formal SCM software Builds on a weekly basis during the System Test phase.

The System Test phase began on 2/1/99 and completed on 3/25/99. The System Test organization used 651 formal test cases to exercise new functionality and 844 formal test cases for regression tests -- two regression exercises were scheduled and performed, one just prior to the scheduled code freeze, and another following the last major software build. In addition, informal test cases were used for 7 working days to supplement formal test cases from the time when the initial exercise of all formal test cases was first completed until the beginning of the first regression exercise. The informal test cases allowed extra testing focus in specific functional areas while providing additional negative testing overall.

Test cases were exercised using production data from US West internal Operations Support Systems (OSS), including BOSS, CARS, PREMIS, ALOC/CNUM/PIC, Facility Check, Appointment Scheduler, CPPD, PAV Server, SOPPROC, SOPS, LMOS and WFA. Fetch N Stuff, Data Arbiter, MEDIACC and ICADS were used as OSS Gateways. Access to OSS legacy data was exercised using both the JavaGUI front-end and EDI.

1.1 Dependencies

IMA Release 4.00 was tested with the following components:

DA_CSR 3.1.6, DA_ADR 3.0.9, DA_TNR 3.0.11, DA_PIC 2.0.3
CSRM 3.0.9
Fetch N Stuff 5.6.5.1 (server) 5.6.4.1 (client libraries)
ICADS Release 4.0
CPPD Release 2.1

2 SCOPE

For IMA Release 4.00, the scope consists of an initial Release baseline defined and approved by IMA Release Management, the IMA Stakeholders and the Business Client

Billing Information Establishment

Prior to the entry of any CLEC order, billing accounts (summary bill accounts) must have been previously established by U S WEST. The CLEC administrator enters summary billing account numbers in the CLEC profile. The CLEC representative must select previously defined billing information, which is then entered as part of the LSR form.

Summary Information Review

The CLEC representative can also review order summary information with the customer to make sure it is accurate. Once LSRs have been transmitted, they can be retrieved and reviewed by the CLEC representative. Even partially entered LSRs (a pending LSR) can be saved, and later retrieved using IMA.

Order Storage and Retrieval

When the CLEC representative has begun to enter the LSR and chooses to save the partially entered order for retrieval at a later time, the LSR is placed in a pending state (IMA status "pending"). A pending LSR can be reviewed, edited, re-saved, submitted, or purged from the system for a specific timeframe, 30 calendar days.

Order Submission

The IMA interface allows the CLEC representative to know that an LSR has been transmitted to U S WEST (IMA status "submitted"). Once the U S WEST ISC representative has reviewed the LSR (IMA status "in review") and successfully translated it to a service order, which is submitted (IMA status "issued") to the SOP, the CLEC is sent an LSRC (also known as an FOC). If an order contains errors (IMA

status "errored"), the ISC representative attempts to contact the CLEC to correct the order and meet the scheduled commitment date prior to rejecting the order (IMA status "rejected"). If the due date for a particular order is in jeopardy of being met, the ISC can enter a jeopardy notification into IMA and send the notification to the CLEC (IMA status "jeopardy"). If the order is not corrected in time to meet the commitment date, the ISC will reject the order (IMA status "rejected"). If U S WEST rejects the order, a reject notification is returned detailing the reasons for order rejection. Once the order has been issued, an LSRC can be returned electronically (via E-mail) or by facsimile.

Supplemental Order Submission

The IMA interface allows the CLEC representative to create supplemental orders, and even recalls the original order when an IMA generated-order needs modification. Only the fields being modified/supplemented need to be completed. Supplemental orders submitted via IMA are processed in the same manner as the original order, including sending the CLEC an LSRC (also known as an FOC). A LSRC is generated and returned to the CLEC upon successful entry of the supplemental order in the SOP. This LSRC is in addition to the LSRC generated from the original service order.

Order Inquiry

The CLEC representative can inquire about the status of an order using IMA. As the order progresses through the order submission and order process phases, the order status is updated in the IMA Firm Order Management (FOM) database.

Order Completion

Once the service order has been entered into and successfully processed by the SOP, the service order is updated and the status is changed to "complete" in a nightly batch run. The SOP sends the service order information to CRIS.

Posting to Customer Service Record

All completed service orders are sent to the billing system, CRIS. After the billing related information has been updated in CRIS, the service order information is sent nightly to the system that presents the customer service record, BOSS/CARS.

Unbundled Switch Analog Line Side Port and Unbundled Switch Digital Line-Side Port

The basic course of managing and completing an order for an unbundled switch analog line-side port or an unbundled switch digital line-side port, using IMA, is similar to that of a non-POTS product. There are nine major functions included in the ordering of these elements: product and service selection, billing information establishment, summary information review, order storage and retrieval, order submission, supplemental order submission, order query, order completion, and posting of the customer service record. All of these functions are performed in a manner as described in this section for unbundled loop.

Unbundled Dedicated Interoffice Transport (UDIT)

The CLEC representative interfaces with EXACT (EXchange Access Control Tracking) to order this type of service. The ASR (Access Service Request) is created by the CLEC representative and submitted to

U S WEST for review and completion, and then forwarded to the appropriate SOP.

Shared Transport and Customized Routing

Ordering shared transport is accomplished with the ordering of unbundled switch ports: simply, a line class code is included on the request for a line-side switch port. This assures that the CLEC customer traffic will be routed over shared trunks. Customized routing is ordered on the ASR for a trunk-side switch port in conjunction with an order (ASR) for UDIT. These orders are related and the necessary information is included so that U S WEST knows to connect the specific trunk-side switch port with the specified trunk group.

UNE Combinations

U S WEST allows the CLECs to order unbundled network elements individually or for combination. The CLEC can use IMA to order the unbundled loop for combination with the unbundled analog switch port, or the unbundled digital switch port for combination with shared transport, or for combination of all three, by using a related purchase order number (RPON) and the line class code field on the LSR. If the CLEC would prefer unbundled direct interoffice transport to shared transport, another interface (EXACT) is used, but the RPON can still be used.

Interim and Local Number Portability (INP and LNP)

The basic course of managing and completing an order for INP and LNP, using IMA, is similar to that of non-POTS product. There are nine major functions included in the ordering of INP and LNP: product and service selection, billing information establishment, summary information review, order storage and retrieval, order submission, supplemental order

submission, order inquiry, order completion, and posting of the customer service record. All of these functions are performed in a manner described in this section for unbundled loop.

ORDERING & PROVISIONING COMPARISION

As described, U S WEST provides CLECs with order information equal in quality in substantially the same time an manner as it provides to itself. However differences may exist. Functionality that requires manual processing by a CLEC representative generally requires manual processing by the U S WEST representative, as well. Therefore, U S WEST's current infrastructure can support the manual processing required as a result of the additional CLEC volume. Additionally, IMA's design has been based on OBF standards, allowing the CLEC representative some consistency with other Bell Operating Companies (BOCs) employing national standards. U S WEST representatives, on the other hand, perform ordering functions using diverse non-OBF standard interfaces.

3. REPAIR

At U S WEST, the activity referred to as repair is comprised of a set of transactions involving a trouble report. A trouble report or "ticket" is the fundamental unit of all repair activities. A trouble ticket identifies the customer, the service with which he or she is experiencing trouble, a description of the trouble, and the status of the activities taken to resolve the trouble. Each repair transaction involves some action in the life cycle of a trouble report.

Six major repair functions will be described in detail regarding how they are implemented for both U S WEST and CLECs. These major functions are: (1) create and submit a trouble report, (2) maintain a trouble report, (3) inquire on

the current status of a trouble report, (4) receive active notification of status change, (5) cancel a trouble report, and (6) close a trouble report.

There are additional functions in the life-cycle of a trouble ticket that will not be described in detail because they are functions that will always be performed by U S WEST's OSSs and U S WEST personnel, for both U S WEST and CLEC-originated trouble tickets. These are functions such as screening, routing and dispatching tickets. They include direct operations on network elements, such as detailed testing and actual maintenance of network hardware and software. These back-end functions of repair reflect the fact that the facilities in question are owned and operated by U S WEST, whether the end-user customer is serviced by U S WEST or a CLEC. At the facilities level, U S WEST responds to trouble tickets in a non-discriminatorye manner, regardless of their source.

HOW REPAIR FUNCTIONS VARY FOR DIFFERENT PRODUCTS U S WEST OFFERS (BOTH TO ITS OWN RETAIL CUSTOMERS AND TO CLECS)

Repair functions differ slightly for POTS as opposed to non-POTS offerings. Resale products can be POTS or non-POTS, and, as resale products, they are treated similarly to the internal products to which they correspond. This is because the basic characteristics of the products are very similar, regardless of whether they are sold to a CLEC for resale or sold directly to a U S WEST retail customer. For example, repair functions for resale POTS are conducted similarly to repair functions for POTS sold to U S WEST retail customers. Unbundled network elements, on the other hand, are designed specifically as products which are offered to CLECs, and are not analogous to products which U S WEST offers to its own retail customers. However, unbundled network elements have characteristics that require them to be treated like non-POTS offerings for purposes of repair, so the descriptions

that follow for non-POTS repair apply to repair of unbundled network elements.

INTERFACES AND OSS USED INTERNALLY BY U S WEST TO PERFORM REPAIR FUNCTIONS (LEFT OFF HERE)

U S WEST uses two major OSS for repair functions: Loop Management Operation System (LMOS) and Work Force Administration/Control (WFA/C). POTS repair tickets are processed by LMOS and non-POTS repair tickets are processed by WFA/C. Internally, U S WEST representatives access these OSS using a graphical interface called DELIVER. DELIVER provides slightly different capabilities for accessing POTS repair functions in LMOS from what it does for non-POTS repair functions in WFA/C.

LMOS and WFA/C in turn use additional OSS. All systems that are used by LMOS and WFA/C are used equivalently for U S WEST and CLEC repair functions. These systems perform the functions described above, such as screening, routing and dispatching tickets, testing circuits and resolving trouble. The back-end repair systems, including some of the detailed functions of LMOS, WFA/C and the systems with which they communicate, will not be described in detail for comparison of U S WEST and CLEC capabilities. This is because such systems are not used differently for CLEC- and U S WEST-originated trouble tickets. The comparison in this document will focus on the interfaces and the major OSS functions in the repair transaction life cycle.

INTERFACES AND OSS OFFERED BY CLECS TO PERFORM REPAIR FUNCTIONS

U S WEST offers specially developed interfaces to enable CLECs to access the same OSS functions U S WEST uses internally to handle repair. As

stated earlier, the repair functions needed by CLECs are those that enable them to interact with the front-end of the repair life cycle: the abilities to create, modify, inquire, receive active notification of status changes, cancel, or close a ticket. The interfaces available to CLECs are designed specifically to support these functions.

CLECs can use IMA as a repair interface for both POTS and non-POTS offerings. For POTS repair, CLECs use IMA to access the capabilities of LMOS. For non-POTS repair, including unbundled network elements, CLECs use IMA to access the capabilities of WFA/C. Whether IMA is providing access to LMOS or WFA/C, it uses MEDIated ACCess (MEDIACC) as a gateway to the applicable U S WEST OSS. MEDIACC is an interface to the U S WEST repair systems that was originally developed for interexchange carriers to submit trouble tickets and is fully compliant with national standards. IMA formats repair transactions according to MEDIACC specifications.

REPAIR FUNCTIONS FOR POTS, NON-POTS AND UNBUNDLED NETWORK ELEMENTS

As a precursor to repair, U S WEST and CLECs using IMA can perform a feature verification query to help determine whether the customer's problem is a repair problem or another type. The feature verification query returns the service and equipment section of the CSR and information from the switch serving the customer's location. This allows a person to compare that which has been provisioned in the switch to the products for which the customer is being billed. If the product or service experiencing the problem has been provisioned in the switch and is reflected on the CSR, the representative then knows a trouble report may be appropriate.

The following sections describe each of the six major repair functions - create, inquire, modify, receive active notification of status changes, cancel, and close a trouble ticket. Within each section (i.e., Create a Trouble Ticket) the first part describes the functionality available to U S WEST representatives for U S WEST retail customers and the second part describes the comparable functionality available to CLEC representatives using IMA to perform repair functions for their retail customers.

All major repair functions are described first for POTS, including a comparison of U S WEST and CLEC access to these functions. Following that, non-POTS repair functions are described and compared. Non-POTS repair functions are described only where they differ from POTS repair functions. Where POTS and non-POTS repair functions are essentially the same, the description and comparison are not repeated for non-POTS. Non-POTS repair functions are used for both non-POTS resold products and for unbundled network elements.

Create a Repair Ticket

Creating a trouble ticket involves entering sufficient data to describe the trouble and to submit the ticket from the interface to the OSS that creates a record of the ticket and tracks its status. Entering sufficient data requires identifying the customer and describing the trouble as reported. U S WEST retail representatives verify that they have the correct customer by retrieving a line record (information about the line in question) and asking the customer to verify their address and comparing the customer's address with the address on the line record. U S WEST representatives may also perform a feature verification to determine if a customer has called with a mistaken impression of what features they expect to use with their telephone service. To do this, the U S WEST

representative retrieves the customer service record and determines what has been ordered for the account. Additionally, an inquiry of the switch is made to determine which features have been recorded at the switch. Creating a ticket is complete when the U S WEST representative submits the ticket from the interface to LMOS for subsequent activity by internal U S WEST repair technicians and representatives. When a trouble ticket is created in LMOS, LMOS automatically initiates a line test that will be performed by the Mechanized Loop Testing (MLT) OSS. High-level test results may give the U S WEST representative basic information about the status of the line. Detailed data from the test can be used in back-end U S WEST repair functions to diagnose problems with the line.

AA CLEC using IMA for POTS repair can perform the functions described above to create a trouble ticket, although in some situations a call by the CLEC to a U S WEST repair center is also required. A CLEC representative can determine which features have been ordered for a line by querying the customer service record. A CLEC representative can call U S WEST to determine what features have actually been requested on the network for a specific line. A U S WEST representative will query a U S WEST network OSS and provide network feature information to the CLEC. When a CLEC representative submits a trouble ticket, LMOS initiates an MLT line test, just as it does for internally generated tickets. The CLEC can be notified of the high level results by facsimile or email, similar to the active notification of status change (active notification will be discussed in a later section). Alternatively, the CLEC representative can learn the high level results of the line test by calling a U S WEST repair center representative. Both the high level and the detailed test results,

however, are best used by U S WEST to investigate and resolve the trouble reported on the line and close the ticket.

Inquire / Modify A Trouble Ticket

For U S WEST representatives handling internal POTS trouble tickets, inquiring and modifying are interrelated. Inquire and modify are separate functions, but they will be discussed together to show their interrelationship. Modifications to a trouble ticket are performed by creating and submitting a new record in the LMOS OSS. The modified trouble ticket is called a subsequent report. Inquiring on the status of a trouble ticket requires the creation of a subsequent report, if only to indicate that an inquiry was performed. Hence, inquiring creates a minor modification to the ticket.

When U S WEST representatives inquire on a trouble ticket, they enter the telephone number (for POTS service) and retrieve the line information, the history and status of the trouble ticket to date and the high level MLT test results. LMOS requires the representative to create a subsequent report even for this inquiry. This is a means of tracking the fact that the status was checked. If the ticket is merely being inquired upon, the subsequent report is recorded as a "Status Only" report.

When U S WEST representatives seek to update a trouble ticket, they retrieve the ticket by the same means as for an inquiry. They create a subsequent report that updates the original ticket with new information, such as a new or additional description of the trouble, or a new commitment time. Modifications to a trouble ticket may also come from U S WEST internal repair technicians who are acting on the ticket. U S WEST repair technicians control some modifications, such as changes to commitment time. Once U S WEST repair technicians begin

working on the network to resolve a trouble ticket, the U S WEST representative will be limited in the aspects of the trouble ticket that can change.

CLEC representatives can use IMA to inquire on the status of a trouble ticket. CLEC representatives select a ticket or tickets based on selection criteria they enter into IMA. They obtain a summary list of tickets that match the criteria. The summary shows the most recent status of the ticket and the date and time that status was set. CLEC representatives can select from the summary list to view additional detail for an individual ticket.

CLEC representatives can modify a trouble ticket using IMA. Once U S WEST repair technicians begin working on the network to resolve a trouble ticket, the CLEC representative is limited in the aspects of the trouble ticket that can change. Once the functions of repair have started, updates are screened to coordinate properly with progress already made on the back-end.

One important example of a ticket modification - canceling a ticket - is enabled by a special function in IMA, which is discussed in a separate section below.

Active Status Change Notification

Active notification of status changes is a special capability of the IMA / MEDIACC interface, which CLECs use to submit POTS trouble tickets to LMOS. Internal U S WEST representatives do not receive active notification of status changes for trouble tickets, but must query the repair OSS to obtain the status.

The IMA/MEDIACC interface to POTS repair functions in LMOS supports active notification to CLEC representatives when changes to the status of a trouble ticket occur. When CLEC representatives create a trouble ticket, they indicate whether they want to receive this notification via facsimile, email, or not at all. If they have chosen facsimile or email, they will receive notification via that medium each time the status of the ticket is updated; for example, from a status of "Open/Active" to "Cleared."

Cancel a Trouble Ticket

Trouble tickets can be canceled by submitting a subsequent report that identifies the ticket as a canceled ticket. Using a subsequent report to accomplish this function makes canceling a ticket similar to modifying a ticket, except that the result is to notify U S WEST representatives and technicians to cease action to resolve the trouble. The canceled ticket remains as a record that the repair activities ended in cancellation rather than closure of the ticket.

The IMA interface enables CLEC representatives to cancel trouble tickets by providing a special button on an IMA screen. Clicking on this button generates the subsequent report, which indicates the ticket is canceled in LMOS. The ticket can only be canceled without charge up to a certain point in the trouble resolution process. For example, if a technician has been dispatched prior to the time the CLEC entered the cancellation of the trouble ticket, the CLEC may still be charged for the repair activities.

Close a Trouble Ticket

For both U S WEST- and CLEC-generated POTS trouble tickets the tickets are closed by technicians once they have addressed the problems defined on the ticket.

Non-Pots Repair Functions Only As They Differ From Pots Repair Functions

There are two major differences in handling trouble tickets for non-POTS products as compared to POTS products: (1) non-POTS tickets contain slightly different information on the ticket, and (2) non-POTS tickets are not closed internally by technicians, but have an authorization step built into the closure function.

Create a Non-POTS Ticket

An important example of the different information required to create and submit a non-POTS trouble ticket as compared to a POTS trouble ticket, is the inclusion of the circuit ID. A telephone number identifies POTS tickets. The telephone number is used to identify the trouble ticket at each step in the repair life cycle. The corresponding element in a non-POTS ticket is the circuit ID. The IMA function to create a non-POTS trouble ticket requires the CLEC representative to enter a circuit ID to track the service being investigated on the ticket. A non-POTS service, such as a T1 line, has a circuit ID. An unbundled loop also has a circuit ID by which non-POTS repair activities are tracked.

Other types of information required to create a non-POTS ticket, in contrast to a POTS ticket, include special times when circuits will be available for testing and monitoring, and a contact person.

Close a Non-POTS Ticket

The closure process for non-POTS trouble tickets adds a step to request verification or authorization to close the ticket. This enables the user of the service to verify whether the problem is resolved and then either confirm the closure of the ticket or leave it open for further

investigation. The user of the service for U S WEST internal customers is the U S WEST retail customer. The user of the service for CLECs is the CLEC representative, working on behalf of the CLEC's end-user customer. U S WEST offers the same authorization step to CLEC users through IMA, as U S WEST users have through internal interfaces.

REPAIR COMPARISON

Repair functions generally involve U S WEST network facilities, and, therefore, rely on U S WEST representatives and technicians to interact with U S WEST's OSSs and network facilities on behalf of the end-user. Whether the end-user is a U S WEST retail customer or a CLEC's end-user customer, once the repair report reaches U S WEST repair personnel, the responsibility and control for resolution of the issue in U S WEST's network rests with U S WEST. U S WEST's relationship with the end-user relies heavily upon communication between the U S WEST repair technicians and the end-user. U S WEST's IMA interface makes key repair functions and information available to the CLEC, which enable the CLEC to provide its end-user with the same service that U S WEST provides to its own end-users. This arrangement helps make the CLEC efficient and transparent as the intermediary between the end-user's issue and U S WEST's repair functions. Because communication is an important part of supporting CLEC repair issues, U S WEST provides CLECs with active notification of POTS and non-POTS trouble ticket status changes. Active notification is not provided to U S WEST internal repair representatives.

U S WEST supports an additional role for the CLEC, which comes into play when the source of the trouble does not rest within U S WEST's network facilities. At times, trouble can result when customers have either an

incorrect understanding of the service they have requested or how to use their service. In this instance, U S WEST supports the CLEC through access to the U S WEST customer service record. By reviewing the customer service record the CLEC can identify whether network activities are at issue thereby saving time and cost.

4. BILLING

In addressing billing interfaces and OSSs, it is necessary to point out that the relationship between U S WEST and a CLEC for billing functions is not the same as their relationship for other OSS functions. For functions such as pre-order, order and repair, U S WEST must enable the CLEC to perform the same functions that U S WEST representatives perform. CLEC representatives and U S WEST representatives both must enter an order, for example. In the billing function, both U S WEST and the CLEC need to generate a retail bill to their respective customers.

The data that U S WEST provides to support a CLEC's billing includes data pertaining to resold products, unbundled network elements and interconnection between U S WEST and CLEC facilities.

DATA PROVIDED TO SUPPORT CLECS' RETAIL BILLING FUNCTIONS

U S WEST's OSSs generate data that CLECs use to perform their billing function. This is because CLEC services are provided on U S WEST's network facilities or by interconnecting with U S WEST facilities. There are two types of U S WEST-generated data required by CLECs to perform CLEC billing functions: (1) usage data and (2) customer activity data. Optionally, the CLEC may choose to use a third type of data: (3) a monthly wholesale bill. The remainder of the billing section has been organized to first describe how each of these types of data supports CLEC retail billing and how

U S WEST provides the data. Lastly, a comparison is presented of the billing process.

Usage Data For Usage-Sensitive Charges

Usage data detail charges that are based on the number, distance and duration of individual calls. The primary example of usage data is call records for intraLATA (toll) calls. A call record exists for each call that will be billed on a usage basis. The call record contains information on the origin, termination, and duration of the call. This information enables a CLEC to apply a formula and determine a price for the call. CLECs will apply their pricing formulas to usage data and generate charges to bill their customers. Usage data from U S WEST's OSSs are an essential input to this CLEC function. The source for usage data, the daily usage feed, is the same for U S WEST as it is for CLECs. This is true whether those calls are placed by U S WEST retail customers or by a CLEC's end-user customers.

Daily Usage Feed

Usage processing captures recorded usage of the U S WEST telephone network by CLEC customers. U S WEST keeps this data for use in generating a monthly wholesale bill to the CLEC. U S WEST also provides this data to the CLEC, which uses the usage data to prepare a bill for its end-user customer. Usage is provided to the CLEC via a daily usage feed. The daily usage feed is an output of the same usage processing stream that U S WEST uses to capture usage for its own retail customers. It runs every business day. Usage data is gathered via the Automatic Message Accounting (AMA) OSS and then processed in the CRIS OSS.

When usage records are first gathered from AMA, the identity of the local service provider (i.e., U S WEST or a CLEC) is not on the record; therefore, CLEC and U S WEST usage records cannot be distinguished. The first point in usage processing where the customer identity is known is in CRIS. CRIS provides a cross-reference file that determines whether the usage belongs to U S WEST or CLEC customers, based on the calling telephone number on the usage record. At this point, CLEC usage can be separated from U S WEST, and the usage data is extracted for the daily usage feed to the CLEC.

The daily usage feed uses the industry-standard Exchange Message Interface (EMI) record format. The daily usage feed is provided to the CLEC on a business day basis, approximately three days after the data is recorded on the switch. CLECs input the usage data into their billing systems, for use in creating a bill for their local customers. CLECs can also use the usage data to verify the monthly wholesale bill they receive from U S WEST.

Customer Activity Data To Start And Stop Billing Correctly

CLECs need to know when customers join and leave the CLEC as their local service provider. This information tells the CLEC when to start and stop billing each customer. The completion and loss reports that U S WEST provides to the CLEC give the CLEC the customer activity information needed to support CLEC retail billing.

Completion and Loss Reports

The completion and loss reports inform the CLEC when essential changes in status of the end-user customer occur. These are the same reports described in the Ordering & Provisioning Section, which communicate order activity to CLECs. The completion report gives the

CLEC confirmation of specific order completion dates, thereby supporting the CLEC billing process by giving it a start date for its customer. Likewise, the loss report confirms for a CLEC the date to apply as a billing end date.

Monthly Wholesale Bill

In addition to the data sources described above for each data type, U S WEST produces a monthly wholesale bill to the CLEC, so U S WEST can bill and collect for wholesale services rendered. The monthly wholesale bill is a component of the business relationship between U S WEST and the CLEC, and is not directly a tool to support the CLEC's billing functions. However, the CLEC can choose to use information on the monthly wholesale bill to verify its internal management of billing information (i.e., usage- and non-usage-based charges), or the CLEC may use the information in the monthly wholesale bill directly to support its billing process. For example, the CLEC can use the monthly bill to verify or reconcile charges and other activities that have an impact on its end-user customers.

CRIS produces the monthly billing feed using the industry-standard Electronic Data Interface (EDI) transaction set number 811. The format of this bill is the same as that used by U S WEST to bill its existing large customers. To prepare this bill for a CLEC, U S WEST applies wholesale tariffs appropriate for CLECs and runs CRIS bill-cycle processing, and bills the CLEC at the summary account level. CLECs can negotiate their preferred bill cycle and bill date. The bill information provided to the CLEC includes charges and account balances. Charges are broken down in categories such as recurring charges, usage and taxes.

BILLING COMPARISON

When a CLEC provides a retail service based on U S WEST network facilities, the CLEC has responsibility for billing its customer. However, the CLEC relies heavily on U S WEST to provide information about the customer's use of the network. U S WEST identified the information that is essential for bill processing and makes that information available to CLECs.

Electronic Interface Functionality

	Checklist Item #1 & #2 - Interconnection and Unbundled Network Elements*			
	Unbundled Dedicated Interoffice Transport (UDIT)		LIS Trunk	
Function	EXACT		EXACT	
■ **Pre-Order**				
Address Verification	N/A		N/A	
Facility Availability	N/A		N/A	
Carrier List	N/A		N/A	
Service Availability	N/A		N/A	
Customer Service Record Retrieval	N/A		N/A	
Telephone Number Process	N/A		N/A	
Appointment Scheduling	N/A		N/A	
■ **Order & Provisioning**				
Product and Service Selection	N/A		N/A	
Customer Listing Creation	N/A		N/A	
Billing Account Number	Y		Y	
Summary Information Review	N/A		N/A	
Order Storage & Retrieval	N/A		N/A	
Order Submission/Receive	Y		Y	
Firm Order Confirmation	Y		Y	
Supplemental Order Submission	Y		Y	
Order Inquiry	N		N	
Order Completion	Y		Y	
■ **Billing**				
	SOP		SOP	
Completion and Loss Report	N		N	
	IABS		IABS	
Usage Data	Y		Y	
Bill for Non-recurring / Recurring Charges	Y		Y	
	IMA	EB-TA	IMA	EB-TA
■ **Maintenance & Repair**				
Perform Feature Verification	N/A	N/A	N/A	N/A
Create Trouble Report	Y	Y	Y	Y
Modify Trouble Report	N	Y	N	Y
Inquire on Trouble Report	Y	Y	Y	Y
Active Notification of Status Change	Y	Y	Y	Y
Cancel Trouble Report	Y	Y	Y	Y
Authorize/Deny Closure	Y	Y	Y	Y
Close Trouble Report	Y	Y	Y	Y
Trouble Report History	Y	Y	Y	Y

N/A = Not applicable

* Shared Transport, Customized Routing and Combinations are included as part of Unbundled Loop and Unbundled Switch sections.

* Human-to-computer interface is not provided by U S WEST. These functions may or may not be supported by the particular human-to-computer interface the CLEC has chosen to use.

Electronic Interface Functionality

	Checklist Item #4 – Unbundled Loop*							
	2 & 4 Wire Voice Grade Analog		2 & 4 Wire Non-Loaded		Basic Rate (BRI) ISDN		DS1 Capable	
Function	IMA	EDI	IMA	EDI	IMA	EDI	IMA	EDI
■ **Pre-Order**								
Address Verification	Y	Y	Y	Y	Y	Y	Y	Y
Facility Availability	Y	Y	Y	Y	Y	Y	Y	Y
Carrier List	Y	Y	Y	Y	Y	Y	Y	Y
Service Availability	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Customer Service Record Retrieval	Y	Y	Y	Y	Y	Y	Y	Y
Telephone Number Process	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Appointment Scheduling	Y	Y	Y	Y	Y	Y	Y	Y
■ **Order & Provisioning**								
Product and Service Selection	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Customer Listing Creation[1]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Billing Number Selection	Y	Y	Y	Y	Y	Y	Y	Y
Summary Information Review	Y	N/A	Y	N/A	Y	N/A	Y	N/A
Order Storage & Retrieval	Y	N/A	Y	N/A	Y	N/A	Y	N/A
Order Submission	Y	Y	Y	Y	Y	Y	Y	Y
Firm Order Confirmation	Y	Y	Y	Y	Y	Y	Y	Y
Supplemental Order Submission	Y	Y	Y	Y	Y	Y	Y	Y
Order Inquiry	Y	Y	Y	Y	Y	Y	Y	Y
Order Completion	Y	Y	Y	Y	Y	Y	Y	Y
■ **Billing**								
	SOP		SOP		SOP		SOP	
Completion and Loss Report	Y		Y		Y		Y	
	CRIS		CRIS		CRIS		CRIS	
Usage Data	Y		Y		Y		Y	
Bill for Non-recurring / Recurring Charges	Y		Y		Y		Y	
	IMA	EB-TA	IMA	EB-TA	IMA	EB-TA	IMA	EB-TA
■ **Maintenance & Repair**								
Perform Feature Verification	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Create Trouble Report	Y	Y	Y	Y	Y	Y	Y	Y
Modify Trouble Report	N	Y	N	Y	N	Y	N	Y
Inquire on Trouble Report	Y	Y	Y	Y	Y	Y	Y	Y
Active Notification of Status Change	Y	Y	Y	Y	Y	Y	Y	Y
Cancel Trouble Report	Y	Y	Y	Y	Y	Y	Y	Y
Authorize/Deny Closure	Y	Y	Y	Y	Y	Y	Y	Y
Close Trouble Report	Y	Y	Y	Y	Y	Y	Y	Y
Trouble Report History	Y	Y	Y	Y	Y	Y	Y	Y

N/A = Not applicable

* Primary Rate (PRI) ISDN and DS3 Capable Services currently not available through IMA nor EDI Interfaces. Can be ordered manually.

* Unbundled Loop available in combination with Unbundled Analog Switch Port services.

[1] Listings are orderable via U S WEST's batch EDI as a stand-alone product.

Electronic Interface Functionality

	Checklist Item #6 – Unbundled Switch*							
	Analog Lineside Port		Digital Lineside Port (BRI – ISDN)		Analog Trunk Port		Digital Trunk Port	
Function	IMA	EDI	IMA	EDI	EXACT		EXACT	
■ **Pre-Order**								
Address Verification	Y	Y	Y	Y	N/A		N/A	
Facility Availability	N/A	N/A	N/A	N/A	N/A		N/A	
Carrier List	Y	Y	Y	Y	N/A		N/A	
Service Availability	Y	Y	Y	Y	N/A		N/A	
Customer Service Record Retrieval	Y	Y	Y	Y	N		N	
Telephone Number Process	Y	Y	Y	Y	N/A		N/A	
Appointment Scheduling	N/A	N/A	N/A	N/A	N/A		N/A	
■ **Order & Provisioning**								
Product and Service Selection	Y	Y	Y	Y	Y		Y	
Customer Listing Creation	Y	Y	Y	Y	N/A		N/A	
Billing Number Establishment	Y	Y	Y	Y	Y		Y	
Summary Information Review	Y	N/A	Y	N/A	Y		Y	
Order Storage & Retrieval	Y	N/A	Y	N/A	Y		Y	
Order Submission	Y	Y	Y	Y	Y		Y	
Firm Order Confirmation	Y	Y	Y	Y	N		N	
Supplemental Order Submission	Y	Y	Y	Y	Y		Y	
Order Inquiry	Y	Y	Y	Y	Y		Y	
Order Completion	Y	Y	Y	Y	Y		Y	
■ **Billing**								
	SOP		SOP		SOP		SOP	
Completion and Loss Report	Y		Y		Y		Y	
	CRIS		CRIS		IABS		IABS	
Usage Data	Y		Y		Y		Y	
Bill for Non-recurring / Recurring Charges	Y		Y		Y		Y	
	IMA	EB-TA	IMA	EB-TA	IMA	EB-TA	IMA	EB-TA
■ **Maintenance & Repair**								
Perform Feature Verification	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Create Trouble Report	Y	Y	Y	Y	Y	Y	Y	Y
Modify Trouble Report	N	Y	N	Y	N	Y	N	Y
Inquire on Trouble Report	Y	Y	Y	Y	Y	Y	Y	Y
Active Notification of Status Change	Y	Y	Y	Y	Y	Y	Y	Y
Cancel Trouble Report	Y	Y	Y	Y	Y	Y	Y	Y
Authorize/Deny Closure	Y	Y	Y	Y	Y	Y	Y	Y
Close Trouble Report	Y	Y	Y	Y	Y	Y	Y	Y
Trouble Report History	Y	Y	Y	Y	Y	Y	Y	Y

N/A = Not applicable

* Shared Transport available in combination with Unbundled Switch Ports. Customized Routing is not currently available.

* Unbundled Loop available in combination with Unbundled Analog Switch Port services.

* Human-to-computer interface is not provided by U S WEST. These functions may or may not be supported by the particular human-to-computer interface the CLEC has chosen to use.

Electronic Interface Functionality

	NUMBER PORTABILITY Checklist Item #11			
	Interim Number Portability (INP)		Local Number Portability (LNP)	
Function	IMA	EDI	IMA	EDI
■ **Pre-Order**				
Address Verification	Y	Y	Y	Y
Facility Availability	N/A	N/A	N/A	N/A
Carrier List	Y	Y	Y	Y
Service Availability	N/A	N/A	N/A	N/A
Customer Service Record Retrieval	Y	Y	Y	Y
Telephone Number Process	N/A	N/A	N/A	N/A
Appointment Scheduling	N/A	N/A	N/A	N/A
■ **Order & Provisioning**				
Product and Service Selection	N/A	N/A	N/A	N/A
Customer Listing Creation	N/A	N/A	N/A	N/A
Billing Number Establishment	Y	Y	Y	Y
Summary Information Review	Y	N/A	Y	N/A
Order Storage & Retrieval	Y	N/A	Y	N/A
Order Submission	Y	Y	Y	Y
Firm Order Confirmation	Y	Y	Y	Y
Supplemental Order Submission	Y	Y	Y	Y
Order Inquiry	Y	Y	Y	Y
Order Completion	Y	Y	Y	Y
■ **Billing**				
	SOP		SOP	
Completion and Loss Report	Y		Y	
	CRIS		CRIS	
Usage Data	Y		Y	
Bill for Non-recurring / Recurring Charges	Y		Y	
	IMA	EB-TA	IMA[2]	EB-TA[3]
■ **Maintenance & Repair**				
Perform Feature Verification	Y	N	N/A	N/A
Create Trouble Report	Y	Y	N	~~Y~~N
Modify Trouble Report	Y	Y	N	~~Y~~N
Inquire on Trouble Report	Y	Y	N	~~Y~~N
Active Notification of Status Change	Y	Y	Y	~~Y~~N
Cancel Trouble Report	Y	Y	N	~~Y~~N
Authorize/Deny Closure	N/A	N/A	N/A	N/A
Close Trouble Report	Y	Y	N	~~Y~~N
Trouble Report History	Y	Y	N	~~Y~~N

N/A = Not applicable

[2] There is no retail analog for LNP-related trouble reports.
[3] There is no retail analog for LNP-related trouble reports.

Electronic Interface Functionality

	RESALE: Checklist Item # 14 – Plain Old Telephone Service (POTS			
	Residence Exchange		Business Exchange	
Function	IMA	EDI	IMA	EDI
■ **Pre-Order**				
Address Verification	Y	Y	Y	Y
Facility Availability	Y	Y	Y	Y
Carrier List	Y	Y	Y	Y
Service Availability	Y	Y	Y	Y
Customer Service Record Retrieval	Y	Y	Y	Y
Telephone Number Process	Y	Y	Y	Y
Appointment Scheduling	Y	Y	Y	Y
■ **Order & Provisioning**				
Product and Service Selection	Y	Y	Y	Y
Customer Listing Creation	Y	N/A	Y	N/A
Billing Number Selection	Y	N/A	Y	N/A
Summary Information Review	Y	N/A	Y	N/A
Order Storage & Retrieval	Y	N/A	Y	N/A
Order Submission	Y	Y	Y	Y
Firm Order Confirmation	Y	Y	Y	Y
Supplemental Order Submission	Y	Y	Y	Y
Order Inquiry	Y	Y	Y	Y
Order Completion	Y	Y	Y	Y
■ **Billing**				
	SOP		SOP	
Completion and Loss Report	Y		Y	
	CRIS		CRIS	
Usage Data	Y		Y	
Bill for Non-recurring / Recurring Charges	Y		Y	
	IMA	EB-TA	IMA	EB-TA
■ **Maintenance & Repair**				
Perform Feature Verification	Y	N	Y	N
Create Trouble Report	Y	Y	Y	Y
Modify Trouble Report	Y	Y	Y	Y
Inquire on Trouble Report	Y	Y	Y	Y
Active Notification of Status Change	Y	Y	Y	Y
Cancel Trouble Report	Y	Y	Y	Y
Authorize/Deny Closure	N/A	N/A	N/A	N/A
Close Trouble Report	Y	Y	Y	Y
Trouble Report History	Y	Y	Y	Y

N/A = Not applicable

Electronic Interface Functionality

	RESALE: Checklist Item #14 — Complex/Designed Services*						
	Private Branch Exchange (PBX) (for POTS only)		Basic Centrex (non-design, line only)	Private Line Transport		Integrated Services Digital Network (ISDN)	
Function	IMA	EDI	EDI	IMA	EDI	IMA	EDI
■ **Pre-Order**							
Address Verification	Y	Y	Y	Y	Y	Y	Y
Facility Availability	Y	Y	Y	Y	Y	Y	Y
Carrier List	Y	Y	Y	Y	Y	Y	Y
Service Availability	Y	Y	N/A	N	N	Y	Y
Customer Service Record Retrieval	Y	Y	Y	Y	Y	Y	Y
Telephone Number Process	Y	Y	N	N	N	Y	Y
Appointment Scheduling	Y	Y	Y	N	N	Y	Y
■ ***Order & Provisioning***							
Product and Service Selection	Y	Y	Y	Y	Y	Y	Y
Customer Listing Creation	Y	Y	Y	Y	Y	Y	Y
Billing Number Establishment	Y	Y	Y	Y	Y	Y	Y
Summary Information Review	Y	N/A	N/A	Y	N/A	Y	N/A
Order Storage & Retrieval	Y	N/A	N/A	Y	N/A	Y	N/A
Order Submission	Y	Y	Y	Y	Y	Y	Y
Firm Order Confirmation	Y	Y	Y	Y	Y	Y	Y
Supplemental Order Submission	Y	Y	Y	Y	Y	Y	Y
Order Inquiry	Y	Y	Y	Y	Y	Y	Y
Order Completion	Y	Y	Y	Y	Y	Y	Y
■ **Billing**							
	SOP		SOP	SOP		SOP	
Completion and Loss Report	Y		Y	Y		Y	
	CRIS		CRIS	CRIS		CRIS	
Usage Data	Y		Y	Y		Y	
Bill for Non-recurring / Recurring Charges	Y		Y	Y		Y	
	IMA	EB-TA	IMA	EB-TA	IMA	EB-TA	IMA	EB-TA
■ **Maintenance & Repair**								
Perform Feature Verification	Y	N	Y	N	Y	N	Y	N
Create Trouble Report	Y	Y	Y	Y	Y	Y	Y	Y
Modify Trouble Report	Y	Y	Y	Y	N	Y	N	Y
Inquire on Trouble Report	Y	Y	Y	Y	Y	Y	Y	Y
Active Notification of Status Change	Y	Y	Y	Y	Y	Y	Y	Y
Cancel Trouble Report	Y	Y	Y	Y	Y	Y	Y	Y
Authorize/Deny Closure	N/A	N/A	N/A	N/A	Y	Y	Y	Y
Close Trouble Report	Y	Y	Y	Y	Y	Y	Y	Y
Trouble Report History	Y	Y	Y	Y	Y	Y	Y	Y

N/A = Not applicable

• Frame Relay currently not available through IMA nor EDI Interfaces. Can be ordered manually.

* Centrex currently not available through IMA.

EDI/EB-TA FUNCTIONAL PROCESS DESCRIPTION

U S WEST has made many pre-order, order and repair functions available to CLECs via computer-to-computer interfaces. In the case of pre-order and order functions, the computer-to-computer interface is called EDI and, for repair functions, the computer-to-computer interface is called EB-TA. The processes for these functions are summarized below.

1. PRE-ORDERING, ORDERING & PROVISIONING PROCESS DESCRIPTIONS

The EDI interface supports the following pre-order, order & provisioning functions: (1) telephone number processing, (2) address verification, (3) check for facility availability, (4) check for service availability, (5) retrieval of customer service record, (6) appointment processing, (7) submission of orders, (8) processing of customer listing information, (9) submission of supplemental orders, (10) inquiry of orders, and (11) error processing.

Telephone Number Process

The EDI pre-order telephone number process allows the user to execute the following transactions: (1) check for telephone number availability (EDI transaction set 850/TNAQ and 855/TNAR), (2) select and reserve a telephone number (EDI transaction set 850/TNSQ and 855/TNSR), and (3) cancel or return a telephone number (EDI transaction set 860/CTQ and 865/CTR).

To request a list of available telephone numbers, the CLEC provides end-user related information on the telephone number availability query. A list of available telephone numbers is returned to the CLEC. The telephone numbers are reserved in PREMIS for the end-user's address at the time the list is sent to the CLEC. Once a telephone number has been reserved, the CLEC has 24 busness hours within which the telephone number may be included on a request for service. Any unused numbers will be returned automatically if an LSR is not submitted in 24 business hours or if the number has not been included on a subsequesnt LSR.

Telephone numbers may be canceled or returned to an available status in the OSS. The CLEC may return the telephone number by submitting a cancel transaction, via EDI, or simply by allowing the telephone number time limitation to be reached. The unused telephone number will automatically be returned to an available status.

Address Verification

The EDI pre-order address verification process allows the user to: query for and retrieve confirmation of valid address information (EDI transaction set 850/AVQ and 855/AVR).

Before service can be ordered, the address where service is to be established can be verified to ensure that a proper address is located.

The CLEC is also able to search for an address using the descriptive name for a specific address.

Facility Availability

The EDI pre-order facility availability process allows the user to: query for and retrieve information related to the presence or absence of POTS facilities for a particular address (EDI transaction set 850/FAQ and 855/FAR).

Using the telephone number or the end-user service address, obtained through the use of the address verification process, a CLEC can query on the existence or availability of and characteristics of POTS facilities at a given point in time.

Service Availability

The EDI pre-order service availability process allows the user to: query for and retrieve information related to POTS service availability (EDI transaction set 850/SAQ and 855/SAR).

Service availabiliy~~t~~ lists the services that are based on the available products and services at the serving wire center~~,~~ and on a CLEC's specific interconnection contract with U S WEST. Also returned are U S WEST's recurring and nonrecurring rates for switch-based services and the CLEC's resale discount percentage.

Customer Service Record Retrieval

The EDI pre-order customer service record (CSR) retrieval process allows the user to: query for and retrieve an existing CSR (EDI transaction set 850/CSRQ and 855/CSRR).

A CLEC can request to retrieve an existing CSR to verify listing, billing and service related information.

Appointment Process

The EDI pre-order appointment process allows the user to: (1) check for appointment availability (EDI transaction set 850/AAQ and 855/AAR), (2) select and reserve an appointment (EDI transaction set 850/AASQ and 855/AASR), and (3) cancel or return an appointment (EDI transaction set 860/CTQ and 865/CTR).

EDI provides to the CLEC a list of available appointments within a four-week time period. The CLEC has a predetermined amount of time in which to select an appointment from the list. If the time limit is exceeded, the CLEC will need to request an updated list of appointments and choose one of the appointments within the time limitation. To select an appointment via EDI, an appointment selection query is sent with the appropriate date and time selection. Once an appointment has been reserved, the CLEC has 24 business hours to

submit an LSR in which the appointment is included on a request for service.

Appointments may be canceled and returned to an available status. A CLEC can return an appointment by issuing a supplemental request to cancel the original request for service. The appointment will then be canceled automatically. If an appointment is reserved but it is later determined that it will not be used, the CLEC may cancel the appointment by submitting a cancel transaction, via EDI, or simply allow the appointment time limitation to be reached and IMA will automatically return the appointment to an available status.

Order Submission

After the CLEC submits an LSR, the LSR is converted into a service order that is recognized by U S WEST's OSSs. If the order is eligible for flow-through, the LSR is electronically converted into a service order. U S WEST has flow-through functionality for conversion as-is orders and conversion as-specified orders. Once the service order has passed IMA edits, it is sent to a U S WEST Service Order Processor (SOP). POTS and PBX orders can be submitted via EDI using the EDI transaction set 850/SVCRQT and 855/FOC. For Loop Service (LS) and Number Portability Service (INP and LNP) orders can

be submitted via EDI using the EDI tranactions set 850/LNPRQT and 855/LNPFOC.

Customer Listing Creation

The Interconnect Service Center (ISC) representative can retrieve, view and process Local Service Requests (LSRs) with complex listings. A complex listing is one that requires special indenting and formatting. Listing information is transmitted as part of the original service order (EDI transaction set 850/SVCRQT and 855/FOC).

Supplemental Order Submission

Using EDI, a CLEC can transmit supplemental orders to either request specific changes, a change in due date only or a cancelation of the entire order (EDI transaction set 860/SUPP or 860/CANCEL and 865/FOC). The original service order is corrected or canceled by the issuance of a supplemental service order.

Order Inquiry

Using the Customer Carrier Name Abbrevation (CCNA), Purchase Order Number (PON) and an optional version number of a LSR, a CLEC can query and retrieve status information. The EDI order inquiry (LSR Status Inquiry) process provides CLECs the ability to inquire the status of a LSR it has submitted. (EDI transaction set 850/LSRSQ and 855/LSRSR).

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Team. Also included are carryover bug fixes from IMA Release 3.03 which were completed in Release 3.03 after the 3.03/4.00 code branch, additional bug fixes (for problems introduced during Releases prior to 4.00) and enhancements which were approved by the IMA Change Control Board, and bug fixes for problems introduced during Release 4.00 development.

2.1 Initial Release Baseline for IMA Release 4.00

DESsv01071	Reorganization of the FOC I-Chart
DESsv01309	Browser compatibility
DESsv01372	Allow ranges for ported numbers
DESsv03259	Provide save and restore functionality for the FOM
DESsv03546	FOM-Need to anchor the LSR ID to the LSR List screen
DESsv03671	EDI_Transactions table - entries continue retry unsuccessfully
DESsv04999	EUI-Bill Section need to populate fields in the database
DESsv05003	Manual Jeopardy - 4.0 Candidate
DESsv05179	Product Table - 4.0 Candidate
DESsv05632	M&R Feature Verification - Candidate Release 3.3
DESsv05645	State and Zip Code were not returned in the Near Match AVR
DESsv05871	M&R: Modify Fuctionality - Updates database when modify fails
DESsv05945	MEDIACC: MODIFY messages received should all say modify vs. add
DESsv06094	Reject LSRs with Account Status of "Final"
DESsv06096	Flow-through of POTS Change Orders
DESsv06221	Reduce Appointment Scheduler Response Time
DESsv06222	Reduce TN Reservation Response Time
DESsv06256	ECIC SSL3 (with performance improved)
DESsv08145	Reorganization of the FOC I-Chart
DESsv08146	Allow ranges for ported numbers

2.2 Carryover bug fixes from IMA Release 3.03 (code branch)

Software bugs that were fixed during the IMA 3.03 System Test phase, but following the 3.03/4.00 code branch, were merged into the 4.00 baseline. The System Test organization re-tested each bug fix in order to confirm that new problems weren't introduced during the merge of code from Release 3.03 into 4.00. All merged bug fixes were successfully verified in Release 4.00.

2.3 Additional CCB Approvals

DESsv01559	Change to worksheet rules for AN on the EUI and FOC
DESsv05724	Error/Jeop. Held-Order+Non-Fatal screen shifts to the right.
DESsv06535	Changes to DL, DSCR, and DSR for Unbundled Analog/Digital
DESsv06651	SUPP order not allowed for Completed and Canceled statuses
DESsv06743	Need to display SAGA pull down list for Address Validation
DESsv06809	CSR retrieval by circuitID - Can't resolve multiple matches
DESsv06848	TC not allowed for range of number portability
DESsv06892	Corrections to the Service Availabilty Worksheet

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DESsv07002	Near match AVRs are not being handled correctly
DESsv07066	Changes to EDI RPL field 101 - ECCKT
DESsv07071	Change to 850AVQ and 855AVR LNAME field
DESsv07126	change ERRNUM field in mapping for consistency and standardizing
DESsv07127	Change ERRCODE field for standardizing and mapping consistency
DESsv07217	Remove POTS/PBX column from FOC and Completion Dev Worksheets
DESsv07241	Unbundled Loop FAQ: Can't resolve SAGA from Zip Code
DESsv07244	M&R Additional Closure Information
DESsv07252	Issues with the SC field on the LSR
DESsv07272	Changes to the Port Service Form
DESsv07324	State and Zip Code were not returned in the Near Match AVR
DESsv07393	Changes to Resale form (fallout from Release 3.3)
DESsv07492	BPL-Centrex TER is required when TLI is populated
DESsv07494	REQ-Centrex OTN Business Rule #2 needs clarification
DESsv07513	USOC Validation needs to not do Hard Rejects
DESsv07535	APPTIME on LSR with Loop and Loop w/Number Portability
DESsv07536	APOT field on LSR form for Loop & Loop w/Number Portability
DESsv07537	CFA field on LSR form for Loop & Loop w/Number Portability
DESsv07541	Dup CSR: Status not displayed correctly
DESsv07595	APPTIME on LSR with Loop and Loop w/Number Portability
DESsv07596	APOT field on LSR form for Loop & Loop w/Number Portability
DESsv07597	CFA field on LSR form for Loop & Loop w/Number Portability
DESsv07598	Issues with the SC field on the LSR
DESsv07616	Corrections to the Service Availabilty Worksheet
DESsv07641	Eliminate CHC code conversion table from EDI mapping examples and Disclo
DESsv07706	Need to display SAGA pull down list for Address Validation
DESsv07707	Need to display SAGA pull down list for Address Validation
DESsv07710	USOC Validation for ACT=T needs to corrected
DESsv07731	USOC Validation for ACT=T needs to corrected
DESsv07732	USOC Validation Candidate for 4.0 needs to not do Hard Rejects
DESsv07758	TC not allowed for range of number portability
DESsv07763	Modify Error/Jeopardy FCIF message format.
DESsv07764	Address Validation Dev. Worksheet - 4.0 Disclosure Synch-up
DESsv07766	Directory Listing Dev. Worksheet - 4.0 Disclosure Synch-up
DESsv07767	Loop Service Dev. Worksheet - 4.0 Disclosure Synch-up
DESsv07768	Loop w/Number Portability Dev. Worksheet - 4.0 Synch-up
DESsv07769	LSR Developer Worksheet - 4.0 Disclosure Synch-up
DESsv07770	TN Developer Worksheet - 4.0 Disclosure Synch-up
DESsv07787	850LNPRQT - Loop Services and Number Portability
DESsv07788	USOC Validation for ACT=T needs to corrected
DESsv07791	Modify Error/Jeopardy FCIF message format.
DESsv07803	Change of PID segment for 855 SAR
DESsv07805	Modify Error/Jeopardy FCIF message format.
DESsv07806	Modify Error/Jeopardy FCIF message format.
DESsv07812	USOC Validation Candidate for 4.0 needs to not do Hard Rejects
DESsv07813	USOC Validation Candidate for 4.0 needs to not do Hard Rejects
DESsv07816	USOC Validation Candidate for 4.0 needs to not do Hard Rejects
DESsv07821	FNS returning wrong year for Appts on or after 1/1/2000
DESsv07828	Changing length of lsrc_email field
DESsv07832	Modify Error/Jeopardy FCIF message format.

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DESsv07833	Make PIC and LPIC fields consistent on Developer Worksheets
DESsv07837	Lsr Confirmation of Conversion As Is Issues.
DESsv07839	Directory Listing Dev. Worksheet - 4.0 Disclosure Synch-up
DESsv07840	Directory Listing Dev. Worksheet - 4.0 Disclosure Synch-up
DESsv07847	Incorrect CSR S&E information is being returned.
DESsv07848	Need to display SAGA pull down list for Address Validation
DESsv07892	performance enhancements
DESsv07898	LSR Dev. Worksheet - 4.0 Disclosure Synch-Up
DESsv07899	Resale Developer Worksheet - 4.0 Disclosure Synch-Up
DESsv07907	Error/Jeopardy/Work Group Status - Change to Prospects field
DESsv07908	EUI Developer Worksheet - 4.0 Disclosure Synch-Up
DESsv07909	Discount Percentage fields need to be a/n on Service Avail.
DESsv07912	ISC uses diff versions of Netscape -need to know what to use
DESsv07924	English Desc. field on SAQ needs to acommodate 150 chars.
DESsv07927	Changes to DL, DSCR, and DSR for Unbundled Analog/Digital
DESsv07928	Changes to DL, DSCR, and DSR for Unbundled Analog/Digital
DESsv07929	Changes to Resale form (fallout from Release 3.3)
DESsv07930	Changes to Resale form (fallout from Release 3.3)
DESsv07931	Loop Service Dev. Worksheet - 4.0 Disclosure Synch-up
DESsv07932	Loop Service Dev. Worksheet - 4.0 Disclosure Synch-up
DESsv08050	Large emails from Gui/Win95 make next request hang GUI/BPL.
DESsv08051	English Desc. field on SAQ needs to acommodate 150 chars.
DESsv08052	English Desc. field on SAQ needs to acommodate 150 chars.
DESsv08053	Modify Error/Jeopardy FCIF message format.
DESsv08054	M&R-History Details Rec'd Time GMT->MST conversion incorrect
DESsv08058	LNP/INP I-Chart/Worksheet Documentation Change
DESsv08064	CSR-AN not returned for private line TNs
DESsv08066	CSR retrieval by circuitID - Can't resolve multiple matches
DESsv08067	CSR retrieval by circuitID - Can't resolve multiple matches
DESsv08084	CSR-Should not display one CLEC's BAN info to another CLEC
DESsv08135	CSR-Should not display one CLEC's BAN info to another CLEC
DESsv08136	CSR-Should not display one CLEC's BAN info to another CLEC
DESsv08137	LSR Wait in FOM
DESsv08149	TC not allowed for range of number portability
DESsv08150	Corrections to the Service Availabilty Worksheet
DESsv08151	USOC Validation Candidate for 4.0 needs to not do Hard Rejects
DESsv08154	APPTIME on LSR with Loop and Loop w/Number Portability
DESsv08159	APOT field on LSR form for Loop & Loop w/Number Portability
DESsv08160	CFA field on LSR form for Loop & Loop w/Number Portability
DESsv08187	USOC Validation needs to reject requests with invalid USOCs
DESsv08201	Changing length of lsrc_email field
DESsv08226	TC not allowed for range of number portability
DESsv08227	USOC Validation needs to reject requests with invalid USOCs
DESsv08264	New fbl libraries - fbl-t303
DESsv08277	Update Makefiles for Quantify/Purify
DESsv08284	Feature Verification will not work
DESsv08301	Inconsistent Title for "PreOrder"
DESsv08302	Inconsistent Title for "Exact match found"
DESsv08305	LSR Form: The information in 'Remarks' field is not wrapped
DESsv08319	Java runtime exception when adding LSRC to an LSR
DESsv08380	LSR Dev Worksheet - M not listed as Valid Value ACT/ISDN

DESsv08396	Fac.ck in Order does not return expected results per 3.2 doc
DESsv08419	Socserver throwing Exception, .
DESsv08430	FAQ - HTTP Error on ISDN Facility Check
DESsv08443	Feature Verification will not work
DESsv08444	Feature Verification will not work
DESsv08702	English Desc. field on SAQ needs to acommodate 150 chars.

3 IMPACTS

3.1 ICADS

The ICADS release testing started late into the Release 4.0 testing cycle. Testing was not able to start from the IMA side until 3/4/99. Consequently, some CRs were not able to be identified until the last week of system test. This caused the test team to have to accept a new FOM/Flowthrough build 2 days before the production installation.

3.2 JDK version 1.2

The Java Development Toolkit version 1.2 that was implemented for the Release 4.0 pre-order/order and feature verification GUIs ended up causing some problems during the testing cycle. Problems were encountered in the Automated Load/Performance testing scripts related to JDK version 1.2 that required the load/performance team members to spend many hours working with the automated tool vendors to resolve. As a result, the first performance measurements were made somewhat late into the system testing cycle, leaving much less time to research and implement possible performance enhancements.

3.3 Feature Verification

Feature Verification is brand new functionality with the 4.0 release. System test had major difficulties finding data to test all the possible scenarios. Explicitly, data related to CSR duplicate resolution when there are various combinations of Blank status and Final status CSRs. There were 8 test cases for feature verification that could not be tested due to the difficulty in finding data for them. The following list is a summary of those 8 test cases:

- Blank CSR
- Blank/Live/Live CSR
- Live/Final CSR with Summary Bill Account
- Blank/Final CSR with Summary Bill Account
- Blank/Live CSR with Summary Bill Account
- Blank/Final/Final CSR with Summary Bill Account
- Blank/Live/Live CSR with Summary Bill Account
- ISDN Line test case.

3.4 Flowthrough

A late discovery during flowthrough system testing was made regarding the PROC TYPE field in the FOM. The PROC TYPE field is not being updated for the orders that come back from flowthrough in 'issued' status. The fix requires a new FOM build. At this late stage of the system test cycle, it is very risky to accept a new build that will only have a day or day and a half to regression test the FOM functionality before production. A post-production patch will be applied the week following production after system test has had time to regression test the new FOM build.

3.5 SOPC

A late discovery during the final stages of SOPC testing was made regarding completion notifications and also regarding updating TN information incorrectly in the database. Due to this late discovery, the fixes were not able to be thoroughly tested before going into the production release. Therefore, the decision was made to go into production with the SOPC program turned off. A patch will be applied in production the week after production deployment for SOPC after system test has had a chance to test the modifications required.

3.6 Outages

Outages in the form of unavailable or degraded FNS and Data Arbiter Gateways were experienced from time-to-time. Solutions included "bouncing" Gateway machines, reconfigurations and hardware repairs. An outage log is available from the IMA Test Manager.

4 TEST RESULTS

4.1 Numbers of Change Requests (Bugs) logged against Release 4.00 (whether resolved or not)

DDTS Project	Severity 1	Severity 2	Severity 3	Severity 4	Total
IMA_ORDER	2	34	122	22	180
IMA_FOM	2	1	37	16	56
IMA_BV	4	2	13	2	20
IMA_ADMIN	0	0	0	1	1
IMA_FRAMEWORK	0	2	3	2	8
IMA_ATNR	0	0	0	1	1
IMA_DB	1	0	1	0	2
IMA_REQ	0	0	19	2	21
IMA_OSS	0	23	33	3	55
Grand Totals	**9**	**62**	**228**	**49**	**344**

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4.2 Unresolved IMA Change Requests logged during Release 4.00 testing and Deferred to Future Releases

The following list is sorted by Severity, DDTS Project, and CR Identifier:

CR Identifier	DDTS Project	Severity	Type	Description
DESsv07818	IMA_BV	3	Bug	2 unneccessary entries in JEOPARDY_REASON_CODES table
DESsv08336	IMA_BV	3	Bug	LSR - Contact Section State Code not populated
DESsv08698	IMA_BV	3	Bug	Error w/MEDIACC (M&R) when maxing the Trouble Desc field.
DESsv07524	IMA_CCB	3	Enh	Display directory section in CSR Query
DESsv07682	IMA_CCB	3	Enh	Evaluate FnS timeout requirements
DESsv07885	IMA_CCB	3	Enh	Return Feature Modifier in SAR
DESsv08230	IMA_CCB	3	Bug	EDI impact from CR DESsv07536
DESsv08622	IMA_CCB	3	Bug	Name required for PL when ACT = C.
DESsv08636	IMA_CCB	3	Bug	FV - Problems with FV screen "flickering".
DESsv08687	IMA_CCB	3	Bug	CSR with status of final, order allowed to submit
DESsv08702	IMA_CCB	3	Bug	English Desc. field on SAQ needs to acommodate 150 chars.
DESsv08724	IMA_CCB	3	Bug	USOC Soft Reject Flag does not perform USOC validation
DESsv08729	IMA_CCB	3	Bug	SAQ Response: Modifier is not returned.
DESsv08741	IMA_CCB	3	Bug	SAQ: Displays $0.00 for rate on non-switch based USOCs
DESsv08772	IMA_CCB	3	Bug	The Service Details Section under NP Compare does not align.
DESsv08783	IMA_CCB	3	Bug	FOM, Resale form srvc dtls NIDR in DB, not displayed in FOM
DESsv08799	IMA_CCB	3	Bug	CSRQ unable to retrieve by circuit id or BTN ckt-41GS2359
DESsv08818	IMA_CCB	3	Bug	CSRM requiring Name to be Last Name, First Name
DESsv08822	IMA_CCB	3	Bug	VALUE MISSING FROM RTR FIELD FOR Resale Private Line
DESsv08824	IMA_CCB	3	Bug	Inside Wire Jack fields allowed to repeat more than 4 times
DESsv08835	IMA_CCB	3	Bug	Message states APPTIME field is required when it is optional
DESsv08837	IMA_CCB	3	Bug	BPL for FV is returning the incorrect error message
DESsv08846	IMA_CCB	3	Bug	BPL-duplicate PON/VER combo following a fatal error
DESsv08847	IMA_CCB	3	Bug	HICAP FAQ: 'See Raw Data' Returned in response
DESsv08849	IMA_CCB	3	Bug	CSR: ECCKT is not populated in the CSRR
DESsv08867	IMA_CCB	3	Enh	Business Rules for LNA=D, FA required needs to be changed
DESsv08871	IMA_CCB	3	Bug	FOM Inactive and Locked LSRs have reject link enabled
DESsv08872	IMA_CCB	3	Bug	EUI form, DB Location table, Street field too short
DESsv08874	IMA_CCB	3	Bug	FV/POO: Confusing Corp ID/User Log-in Info.
DESsv08878	IMA_CCB	3	Bug	Review CSR Response: S&E Section
DESsv08882	IMA_CCB	3	Bug	BPL not concatenate Street Number and Street name in CSRQ
DESsv08890	IMA_CCB	3	Enh	GUI Performance issues with navigation on the screens
DESsv08899	IMA_CCB	3	Bug	ISDN Suspend: Inconsistent Rules
DESsv08900	IMA_CCB	3	Bug	FOM: Get CSR link should be disabled when no AN/EAN
DESsv08909	IMA_CCB	3	Bug	FOM: Street Number missing when FBI=D
DESsv08911	IMA_CCB	3	Bug	FOM CSR Information shows 3 CSRs, CARS shows 2
DESsv08913	IMA_CCB	3	Bug	CSR: CSR STATIND & CS are not populated on Multiple match
DESsv08916	IMA_CCB	3	Bug	CSRR returned Bill Name, NOT List Name on a Multiple Match
DESsv08919	IMA_CCB	3	Bug	CSR account status not returned in LSR for duplicate accnts
DESsv08943	IMA_CCB	3	Bug	Cannot get CSR based off EAN
DESsv08947	IMA_CCB	3	Enh	FAX/EMAIL fields are not being sent on the LSR for the CLEC
DESsv08948	IMA_CCB	3	Enh	SAQ response for switch information.
DESsv08952	IMA_CCB	3	Bug	FOM -Feature detail not displayed as entered in the JavaGUI

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CR Identifier	DDTS Project	Severity	Type	Description
DESsv08958	IMA_CCB	3	Bug	CSRQ business partial match requires name in caps ie: BIG;
DESsv08959	IMA_CCB	3	Bug	GUI-Submit FAQ after failed CSR causes Netscape to crash
DESsv08972	IMA_CCB	3	Bug	GUI-Netscape crashes after an error returned in PreOrder.
DESsv08845	IMA_DB	3	Bug	NC/NCI codes not in Database
DESsv07827	IMA_FOM	3	Bug	Another test CR, please disregard.
DESsv08548	IMA_FOM	3	Bug	FlowThru-Should not get total order count if rc=01
DESsv08975	IMA_FOM	3	Bug	Jeopardy updating saved confirmation rather than submitted
DESsv08976	IMA_FOM	3	Bug	LSRC displays wrong Save when accessed through CCNA/PON
DESsv07620	IMA_ORDER	3	Dev	Get rid of Thread.stop() use in IMAProxy & elsewhere
DESsv07656	IMA_ORDER	3	Dev	Columns in multilists should be able to move.
DESsv08433	IMA_ORDER	3	Enh	EDI code conversion for Final Bill Indicator
DESsv08493	IMA_ORDER	3	Bug	Unbundled Loop Inside Move only allowed for CO, IA, & MN
DESsv08511	IMA_ORDER	3	Bug	EDI code conversion for PROF Indicator
DESsv08512	IMA_ORDER	3	Bug	EDI code conversion for NOSL (DL-57)
DESsv08514	IMA_ORDER	3	Bug	EDI code conversion for OMTN (DL-19)
DESsv08516	IMA_ORDER	3	Bug	EDI code conversion for DML (DL-56)
DESsv08517	IMA_ORDER	3	Bug	EDI code conversion for TMKT (DL-59)
DESsv08518	IMA_ORDER	3	Bug	EDI code conversion for ADI (DL-49)
DESsv08519	IMA_ORDER	3	Bug	EDI code conversion for LNPL (DL-23)
DESsv08535	IMA_ORDER	3	Bug	CHANGE DATE FIELDS ON THE MAPS:855AAR,860ASQ,865ASR
DESsv08608	IMA_ORDER	3	Bug	Delimiter in EDI transactions
DESsv08638	IMA_ORDER	3	Bug	EDI code conversion for SCA Indicator
DESsv08639	IMA_ORDER	3	Bug	EDI code conversion for ANV Indicator
DESsv08653	IMA_ORDER	3	Bug	EDI code conversion for NIDR
DESsv08773	IMA_ORDER	3	Bug	USOC Validation/Centrex Should use state on CRS form not EUI
DESsv08787	IMA_ORDER	3	Bug	EDI-APPSLOT is sent in wrong format
DESsv08885	IMA_ORDER	3	Bug	UNKNOWN CSR Status
DESsv08946	IMA_ORDER	3	Bug	SOPC-dies doing CLEC notification (on imalive)
DESsv05989	IMA_OSS	3	Bug	Fetch response of PNA Remarks is incorrect
DESsv08556	IMA_OSS	3	Bug	Order no CSR associated, s/b No Match getting Undetermined
DESsv08649	IMA_OSS	3	Bug	CSR Response didn't match the response from CARS
DESsv08759	IMA_OSS	3	Bug	TNAQ no TN's returned from FNS, TN's reserved in PREMIS
DESsv08784	IMA_OSS	3	Bug	FAQ error message: Unknown HTML Page:
DESsv08804	IMA_OSS	3	Bug	CSRQ on Circuit ID getting Near Match and s/b Exact Match
DESsv08838	IMA_OSS	3	Bug	Data Arbiter is returning an incorrect error message
DESsv08848	IMA_OSS	3	Bug	Large CSRs missing data
DESsv08898	IMA_OSS	3	Bug	FV cannot pull correct CSR with a suffix code invovled.
DESsv08219	IMA_REQ	3	Bug	CSR Retrieval in FOM -DA_CSR_Parser error
DESsv08626	IMA_REQ	3	Bug	Move To field for FAR36 needs to be expanded
DESsv08549	IMA_SW	3	Bug	Netscape generates an illegal operation error and shuts down
DESsv08220	IMA_ADMIN	4	Enh	Corporate User Profile -error message, erases previous input
DESsv08808	IMA_CCB	4	Bug	GET CSR on Private Line does not change match to Undetermine
DESsv08811	IMA_CCB	4	Bug	Validation of PG_OF field in LSR form lacking
DESsv08812	IMA_CCB	4	Bug	FOM cancel LSR, cancel link, access LSRC summary - Read-only
DESsv08816	IMA_CCB	4	Bug	LS Form, ACT and DRTC field not fully displayed.
DESsv08821	IMA_CCB	4	Enh	Maximum Allowable DDDO
DESsv08832	IMA_CCB	4	Bug	RPL: Address Drop down not defaulting

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CR Identifier	DDTS Project	Severity	Type	Description
DESsv08836	IMA_CCB	4	Bug	FV scroll bar appearing intermittently when Pre-Order is up
DESsv08883	IMA_CCB	4	Bug	Feature Verifcation screen does not fill window
DESsv08953	IMA_CCB	4	Bug	LSR Compare offsets on EUI Inside Wire section -no differenc
DESsv08963	IMA_CCB	4	Bug	Data populated in DATED, AUTHNM, AN not mapping to New LSR
DESsv08964	IMA_CCB	4	Bug	FnS mapping CFA OK data to incorrect FAQ field
DESsv08965	IMA_CCB	4	Bug	LSRC-DL dates deleted if incorrect format is used if saved
DESsv08770	IMA_FOM	4	Bug	Resale form, admin section contains CB -not for Resale prods
DESsv08981	IMA_FOM	4	Bug	WGS Internal Comments error message not clearing.
DESsv08402	IMA_ORDER	4	Bug	EDI/ISDN: Remove Regular Hunting from ISDN
DESsv08690	IMA_ORDER	4	Bug	Feature Verification: Bottom scroll bar almost hidden
DESsv08775	IMA_ORDER	4	N/A	informational- "imaAgent[0]: WARNING The user submitted an L
DESsv08515	IMA_OSS	4	Bug	Original Serv. Estab. is inconsistently returned
DESsv08530	IMA_OSS	4	Bug	CSR formatting off in S & E section for circuit ID's
DESsv08501	IMA_REQ	4	N/A	EUI: IWO has extra invalid values
DESsv08795	IMA_REQ	4	Enh	Requirements for Authorization 'Dated' field lacking

4.3 Formal Test Cases -- Organization and Pass/Fail

4.3.1 JavaGUI/BPL

	Total New Cases	New Test Cases			Total Regress Cases	Regress Cases	
		Pass	*Fail*			*Pass*	*Fail*
Appointment Changes	2	2					
Browser Migration	1	1					
Ported TN	18	18					
Reject LSR w/Acct Status of Final	148	146	2				
Service Availability - USOC Query	13	12	1				
State, Zip Code not returned on Near Match AVR	22	17	5				
USOC Verification	139	139					
Address Validation – SAGA	6	6					
Facility Check					99	98	1
Digital Line-side Switch Port					77	77	
PBX for POTS					18	18	
CSR/AVQ/SAQ Enhancements					42	36	6
Resale BRI ISDN					40	38	2
Number Portability					23	23	
Unbundled Analog Line-side Switch Port					47	47	
POTS					44	44	
Unbundled Loop					20	20	
Private Line					73	70	3
Unbundled Loop with Number Portability					65	65	
Grand Totals	349	341	8		548	536	12

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4.3.2 FOM/M&R/Flow-through

	Total New Cases	New Test Cases			Total Regress Cases	Regress Cases	
		Pass	*Fail*			*Pass*	*Fail*
Manual Jeopardy	38	38					
Error Conditions	8	7	1				
Errors	4	4			11	11	
Rejects	1	1			6	6	
Main Menu	10	10					
Notes					7	7	
LSR Lock					16	16	
LSR Detail	5	5			19	19	
LSR Compare	5	5			19	18	1
CSR	25	21	4		15	15	
CCNA/PON	1	1			1	1	
LSR List	1	1			1	1	
LSR Selection Crit.					1	1	
M & R	8	8			2	2	
Feature Verification	33	21	4				
LSR View	1	1			5	5	
Work Group Status					15	15	
LSR Confirmation	40	38	2				
LSR Summary	40	38	2				
Resource Return					9	9	
LSR Completion					1	1	
LSR Cancel	1	1			10	9	1
LSR Route					6	6	
Grand Totals	221	200	13		144	142	2

4.3.3 EDI

	Total New Cases	New Test Cases			*Total Regress Cases*	*Regress Cases*	
		Pass	*Fail*			*Pass*	*Fail*
Range of Ported TNs	9	9					
SAQ Enhancements	11	11					
Reject LSRs with Final CSR	8	7	1				
USOC Validation	41	40	1				
SOPC	1		1		4	3	1
Manual Regression Tests					124	118	6
Automated Regression					1		1
Grand Totals	70	67	3		129	121	8

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4.4 Formal Test Cases – Reasons for Failure

4.4.1 JavaGUI/BPL Test Case Failures

There are currently 2 test cases failing for 'Reject LSR with Account Status of Final'. The CRs that are causing the failures are listed below:

- EUI form, DB location table, street field too short (DESsv08872)
- CSR retrieval by Circuit-id errors out (DESsv08881)

There are currently 6 test cases failing for Address Validation. The CRs that are causing the failures are listed below:

- Return Numbered Addressw Response for Unnumbered Address Search (DESsv06217)
- AVQ Multiple Match Description Street and Route not shown (DESsv08306)

There is currently 1 test case failing for Facility Availability. The CR causing the failure is listed below:

- GUI-SAGA is not on the Facility Check screens (DESsv08459)

There is currently 1 ISDN test case failing. The CRs causing the failures are listed below:

- LS Form, ACT and DRTC field not fully displayed (DESsv08816)

4.4.2 FOM/M&R/Flowthrough Test Case Failures

There are 4 test cases failing related to CSR functionality. The CRs causing the failures are listed below:

- Select button grayed out for duplicate circuit id accounts (DESsv07670)
- match s/b undetermined after select CSR, not working for circuits (DESsv08808)
- CSRM not giving exact match for circuit id's in CARS (DESsv08556)

There is 1 test case failing for LSR locking functionality. The CR causing the failure is listed below:

- LSR is locked by person A, but person B can reject or cancel (DESsv08871)

There are 2 test cases that are failing for Error Conditions. The CRs that are causing the failures are listed below:

- Work Group Status went date populated before transaction sent to co-provider (DESsv08643)
- BPL for FV is returning the incorrect error message (DESsv08837)

4.4.3 EDI Test Case Failures

There is 1 test case for USOC validation that is currently failing. The CR causing the failure is listed below:

- USOC validation process for the state is being generated from the EUI form rather than the CRS form as expected. (DESsv08773)

There is 1 test case currently failing for Enhanced Address Validation. The CR causing the failure is listed below:

- Address Validation: LSO, Rate Zone, Switch not returned (DESsv06653)

There are 2 test cases currently failing for Facility Availability. The CRs causing the failures are listed below:

- Location Number of Facilities satisfied incorrect (DESsv07671)
- FAQ error message: Unknown HTML Page (DESsv08784)

There is 1 test case currently failing for Unbundled Analog Line-side Switch Port. The CR causing the failure is listed below:

- BPL-UALSP not rejected when appointment is reserved (DESsv07571)

4.5 Initial Release Baseline – Functionality Exceptions

Each piece of functionality which is part of the initial baseline for Release 4.00 is considered to be fully functional (as tested against requirements) with the following **Exceptions**. If no **Exceptions** appear under a baseline functionality description, it is considered to be fully functional.

- Baseline functionality – Reorganization of the FOC I-Chart

- Baseline functionality – Browser Compatibility
  Exception: The applet has not been tested with Internet Explorer

- Baseline functionality -- Allow Ranges for Ported Numbers

- Baseline functionality -- Provide Save and Restore Functionality for the FOM

- Baseline functionality -- FOM-Need to Anchor the LSR ID to the LSR List Screen

- Baseline functionality -- EDI_Transactions Table – Entries Continue Retry Unsuccessfully

- Baseline functionality -- EUI-Bill Section need to populate fields in the database
- Baseline functionality -- Manual Jeopardy – 4.0 Candidate
- Baseline functionality -- Product Table – 4.0 Candidate
- Baseline functionality -- M&R Feature Verification – Candidate Release 3.3
- Baseline functionality --State and Zip Code were not returned in the Near Match AVR
- Baseline functionality -- M&R: Modify Functionality - Updates Database When Modify Fails
- Baseline functionality -- MEDIACC: MODIFY Messages Received Should all say modify vs. add
- Baseline functionality -- Reject LSRs with Account Status of "Final"
- Baseline functionality -- Flow-through of POTS Change Orders
- Baseline functionality -- Reduce Appointment Scheduler Response Time
- Baseline functionality -- Reduce TN Reservation Response Time
- Baseline functionality -- ECIC SSL3 (with performance improved)
- Baseline functionality -- Reorganization of the FOC I-Chart
- Baseline functionality -- Allow Ranges for Ported Numbers

5 RECOMMENDATION

IMA 4.00 is conditionally recommended for production status:

1. USW Management and Business will have to accept unknown risks associated with late code changes during the IMA 4.00 system test phase. No meaningful regression testing has been performed since delivery of the latest bug fixes from FOM and EDI/GUI.
2. USW Management and Business will have to accept flowthrough functionality being turned off for the first 2-3 days until the FOM patch can be system tested and applied

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in the production environment. Refer to Attachment A for a tentative schedule of tasks.

3. USW Management and Business will have to accept SOPC functionality being turned off for the first 2-3 days until the SOPC patch can be system tested and applied in the production environment.
4. USW Management and Business will have to accept the unknown risks associated with not being able to exercise 8 of the feature verification test cases. The scenarios were not able to be tested because of difficulty finding data to use to test them. The scenarios that are left to test are listed below:
   - Blank CSR
   - Blank/Live/Live CSR
   - Live/Final CSR with Summary Bill Account
   - Blank/Final CSR with Summary Bill Account
   - Blank/Live CSR with Summary Bill Account
   - Blank/Final/Final CSR with Summary Bill Account
   - Blank/Live/Live CSR with Summary Bill Account
   - ISDN Line test case.

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Attachment A

Post Production Install Test Activities for CRs 8937, 8944, 8949

- Thursday 3/25/99 – Test turning off the flowthrough button in the system test environment to ensure that the FOM works correctly.
- Thursday 3/25/99 – Install the new FOM 4.00.16 build on the eclipse integration test host.
- Thursday 3/25/99 to Friday 3/26/99 – Integration testing the 4.00.16 FOM build on the eclipse host.
- Friday 3/26/99 – Install the 4.00.15 version of the FOM into production.
- Monday 3/29/99 – Install the 4.00.16 FOM build in system test environment.
- Monday – Tuesday, 3/29/99 – 3/30/99, Regression test the FOM 4.00.16 build in the system test environment. Also, regression test the SOPC patch build.
- Tuesday night 3/30/99 or Wednesday night 3/31/99, install the FOM 4.00.16 patch build into production. Also install the SOPC patch into production.

IMA 4.0
BUSINESS INTEGRATION TEST PLAN

For Further Information
Please Contact

Pat Meyers
(303)896-3481

TABLE OF CONTENTS

1. INTRODUCTION

The main enhancement for release 4.0 is the integration of the Wholesale Product Table (WPT) into IMA. The data from this table is used by IMA in two ways. The Service Availability Query (SAQ) in the GUI and EDI will now provide each co-provider a list of the USOCs they are authorized to resell in the state requested. The BPL will use the information in the WPT to provide USOC validation. If the USOC provided by the co-provider on the LSR is not valid in the WPT, the BPL will provide a hard-reject message to the co-provider indicating that the USOC(s) are invalid and that the LSR cannot be submitted.

There are no new products added to either the GUI or EDI for 4.0. Number portability will be enhanced to allow for ranges of ported numbers. This allows co-providers to submit one form for an entire range of numbers, rather than a single resale form per telephone number.

The GUI infrastructure is being upgraded to allow for the use of versions of Netscape higher than 3.01. The officially supported version, which we will test, will be Navigator 4.08.

There are many modifications to the FOM in the 4.0 release. Save and restore functionality will be added for the LSRC. The Error/Jeopardy confirmation screen will be divided into two separate screens - one for LSR Errors and a separate one to provide notification to the co-provider when their LSR is in Jeopardy of not completing as submitted. The FOC FCIF file will be reorganized to add some additional fields and reorganize others.

Maintenance and repair will be augmented to provide co-providers the ability to manually verify features associated with a TN in order to assist with troubleshooting problems.

1.1 Scope of Release

1.1.1 ENHANCEMENTS AND/OR CHANGE REQUESTS

The following are a list of enhancements and/or Change Requests (CRs) that will be implemented with Release 4.0:

1.1.1.1 JAVA GUI

The **JAVA GUI** will be improved to support the following enhancements:

- Enhanced SAQ/WPT Integration (DESsv05179)
- USOC Edits/WPT Integration (DESsv05179)
- Allow Ranges for Ported Numbers (DESsv01372)
- Netscape Upgrade for CLEC GUI (DESsv01309)

- Reject LSR if CSR in Final (DESsv06094)

1.1.1.2 Maintenance and Repair:

Maintenance and Repair (M&R) will provide the following new and updated functionality:

- Modify Message from MEDIACC (DESsv05946)
- M&R: Modify Functionality – Updates DB when modify (DESsv5871)
- Feature Verification (DESsv5632)

1.1.1.3 Electronic Data Interchange (EDI)

Electronic Data Interchange (EDI) will enhance Pre-order functionality, and existing products:

- Enhanced SAQ/WPT Integration (DESsv05179)
- USOC Edits/WPT Integration (DESsv05179)
- Allow Ranges for Ported Numbers (DESsv01372)
- Reject LSR if CSR in Final (DESsv06094)
- Reorganize of FOC/FOM (DESsv01071)

1.1.1.4 Business Process Layer (BPL)

The **Business Process Layer (BPL)** will provide the following new edit checks for all submitted orders:

- USOC Edits/WPT Integration (DESsv05179)
- Reject LSR if CSR in Final (DESsv06094)
- EUI-Bill Section need to populate fields in the Database (DESsv04999)

1.1.1.5 Firm Order Manager (FOM)

The **Firm Order Manager (FOM)** will support the following enhancements:

- USOC Edits/WPT Integration (DESsv05179)
- Allow Ranges for Ported Numbers (DESsv01372)
- Flowthru-POTS Change Order (DESsv06096)
- FOM-Anchor LSR ID to LSR List Screen (DESsv3546)
- LSRC Save/Restore in FOM (DESsv3259)
- Manual Jeopardy (DESsv5003)
- Reorganize of FOC/FOM (DESsv01071)
- EUI-Bill Section need to populate fields in the Database (DESsv04999)

1.1.1.6 Change Requests (CRs)

The following is a list of approved **Change Requests (CRs)** that will also be included:

- DESsv01559 – Change to worksheet rules for AN on the EUI and FOC
- DESsv05645 – State and Zip Code were not returned in the Near Match AVR
- DESsv05724 – Error/Jeopardy Held-Order and Non-Fatal screen shifts to the right
- DESsv06535 – Changes to DL, DSCR, and DSR for Unbundled Analog/Digital

- DESsv06551 – Sup Order goes through when original order is in completed
- DESsv06743 – Need to Display SAGA pull down list for Address Validation
- DESsv06809 – CSR retrieval by Circuit ID – Can't resolve multiple matches
- DESsv06848 – TC not allowed for range of number portability
- DESsv06892 – Corrections to the Service Availability Worksheet
- DESsv07066 – Changes to EDI RPL field 101 – ECCKT
- DESsv07071 – Change 850AVQ and 855AVR LNAME field
- DESsv07126 – Change ERRNUM field in mapping for Consistency and Standardization
- DESsv07127 – Change ERRCODE field for standardizing and mapping consistency
- DESsv07217 – Remove POTS/PBX column from FOC and Completion Dev Worksheet
- DESsv07244 – M&R Additional Closure Information
- DESsv07252 – Issues with the SC field on the LSR
- DESsv07272 – Changes to the Port Service Form
- DESsv07393 – Change to the Resale From (fallout form Release 3.3)
- DESsv07492 – BPL- Centrex TER is required when TLI is populated
- DESsv07494 – REQ – Centrex OTN Business Rule #2 needs clarification
- DESsv07513 – USOC Validation Candidate for 4.0 needs to not do Hard Reject (Cancelled-Replaced with CR DESsv08187)
- DESsv08187 - USOC Validation needs to reject requests with invalid USOCs
- DESsv07535 – APPTIME on LSR with Loop and Loop w/ Number Portability
- DESsv07536 – APOT field on LSR form for Loop and Loop w/ Number Portability
- DESsv07537 – CFA field on LSR form for Loop and Loop w/ Number Portability
- DESsv07541 – Dup CSR: Status not displayed Correctly
- DESsv07641 – Eliminate CHC code conversion table from EDI mapping example
- DESsv07710 – USOC Validation for ACT=T needs to be corrected
- DESsv07763 – Modify Error/Jeopardy FCIF Message Format
- DESsv07764 – Address Validation Dev. Worksheet – 4.0 Disclosure Synch-up
- DESsv07766 – Directory Listing Dev. Worksheet – 4.0 Disclosure Synch-up
- DESsv07767 –Loop Service Dev. Worksheet – 4.0 Disclosure Synch-up
- DESsv07768 – Loop with Number Portability Dev. Worksheet – 4.0 Disclosure Synch-up
- DESsv07769 – LSR Developer's Worksheet – 4.0 Disclosure Synch-up
- DESsv07770 – TN Developer's Worksheet – 4.0 Disclosure Synch-up
- DESsv07787 – 850LNPRQT- Loop Services and Number Portability
- DESsv07828 – Changing length of lsrc_email field
- DESsv07833 - Make PIC and LPIC fields consistent on Developer Worksheets
- DESsv07837 – LSR Conversion as Is Issues
- DESsv07907 – Error/Jeopardy/Work Group Status – Change to Prospects field
- DESsv07908 – EUI Developer Worksheet – 4.0 Disclosure Synch-up
- DESsv07909 – Discount Percentage fields need to be a/n on Service Availability
- DESsv07924 – English Descr. Field on SAQ needs to accommodate 150 chars.

Business Integration Test (BIT) for Release 4.0 will not only include the testing of the new functionality added to IMA with this Release, but also ensure that the current functionality continues to function without adverse affects or changes.

1.1.2 DOCUMENTATION

The following documents, along with the CRs listed above, will be utilized to assure Release 4.0 meets all requirements as stated:

1.1.2.1 MISCELLANEOUS DOCUMENTS

- Developer's Worksheets-Version 4.0.03
- Release 4.0 Functional Requirements Extract

1.1.2.2 JAVA GUI

- Browser Migration Analysis, September 22, 1998, Version 4.00.01

1.1.2.3 FOM

- USOC Validation for Order Enhancement Specification, October 8, 1998, Version 4.00.06
- USOC Validation for Order Change Log, January 12, 1999, Version 4.00.00
- SAQ Enhancement Specification, October 8, 1998, Version 4.00.03
- Range of Ported TNs Enhancement Specification, October 9, 1998, Version 4.00.03
- Range of Ported TNs Change Log, January 4, 1999, Version 4.00.03
- Save and Restore in the FOM Enhancement Specification, October 8, 1998, Version 4.00.02
- Manual Jeopardy Enhancement Specification, August 13, 1998, Version 3.03.05
- Manual Jeopardy Enhancement Specification Change Log, December 2, 1998, Version 4.00.03
- Reorganize of FOC/FOM Enhancement Specification, September, 18, 1998, Version 4.00.01

1.1.2.4 FLOW THROUGH

- ICADS 4.0 Functional Specifications: Resold Activity with Change for Central, Eastern, and Western Regions, December 22, 1998

1.1.2.5 GUI/EDI PRE-ORDER

- SAQ Enhancement Specification, October 8, 1998, Version 4.00.03
- SAGA for Address Validation White Paper, January 5, 1999, Version 4.00.03

1.1.2.6 GUI/EDI ORDER

- Reject LSRs with a Final CSR, October 9, 1998, Version 4.00.03
- Range of Ported TNs Enhancement Specification, October 9, 1998, Version 4.00.03
- Range of Ported TNs Change Log, January 4, 1999, Version 4.00.03
- USOC Validation for Order Enhancement Specification, October 8, 1998, Version 4.00.06
- USOC Validation for Order Change Log, January 12, 1999, Version 4.00.00

1.1.2.7 Maintenance and Repair

- Feature Verification Enhancement Specification, October 13, 1998, Version 4.00.02

The documents listed above will be used by BIT to perform the Release 4.0 testing with the assumption that the version, as indicated, is considered the final version. If this assumption is in fact incorrect or all of the documents are not listed, the updated, final versions or additional documents will need to be supplied to BIT before testing can begin.

1.2 Assumptions

This test plan was created with the following assumptions made:

- The documents listed above are the final version.
- The Netscape Versions to be used for testing 4.0 are:
  - The US WEST version of Netscape Communicator 4.05 for the FOM.
  - The non US WEST version of Netscape Communicator 4.08 for the GUI.
- Any upgrades or new functionality to Fetch-N-Stuff will not adversely affect BIT testing.
- BIT testing will be performed using the production legacy systems.
- BIT will provide support, if needed, during user acceptance testing.
- Some flowthru testing will be conducted jointly with the IMA Test Team and the ICADS Test Team.
- This is a living document and will be modified and updated throughout the testing process.

2. TEST STRATEGY

BIT testing will concentrate on the business functionality that is being either added or enhanced with Release 4.0 and the current functionality that will remain unchanged. Each build that BIT receives will contain both the new and unchanged functionality, plus any corrections to CRs encountered either during System testing or BIT testing.

2.1 Test Objectives

The primary objectives of BIT testing will be:

- Verify that the functionality of all requirements, as stated in the above listed documents, meet all business rules as supported by IMA.
- Assure current functionality is not changed or impacted by the new requirements.
- Coordinate the testing of GUI and EDI functionality with the GUI and EDI business leads to assure that all GUI and EDI business rules have been implemented.
- Coordinate all functional or business discrepancies found during testing with development, system test, and the business.
- Strive for 100% completion of all requirements, but allow a 5% rate of changes that will be unrealistic to deploy with this release, but deferred to future releases.

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- Use all updated user guide documentation during the test process. Provide corrections to the documentation team.
- Provide test statuses on a daily basis.
- Adhere to the BIT test schedule as indicated in the Test Schedule Section below to assure the delivery date of Release 4.0 is met.
- Assure all CRs found during the testing process are either resolved or deferred to a future release.

2.2 Test Schedule

With each build on the BIT environment, BIT will receive the updated applications for EDI, BPL, JAVA GUI, FOM and Broadvision. BIT reserves the right to refuse any or all application Builds, if it is determined that the new Build will disrupt the BIT testing process.

Milestone	Begin Date	Responsible Group
First 4.0 Build	02/19/99	Troy McCleery
Begin First Test Cycle	02/22/99	BIT Team
Second 4.0 Build	02/26/99	Troy McCleery
Begin Second Test Cycle	03/01/99	BIT Team
Third 4.0 Build	03/05/99	Troy McCleery
Begin UAT First Test Cycle	03/08/99	Business
Begin Third Test Cycle	03/08/99	BIT Team
Fourth 4.0 Build	03/12/99	Troy McCleery
Begin Fourth Test Cycle	03/15/99	BIT Team
Begin UAT Second Test Cycle	03/15/99	Business
Final 4.0 Build	03/19/99	Troy McCleery
Final Test Cycle	03/22/99	BIT Team and Business
BIT Final Approval	03/25/99	Pat Meyers
UAT Final Approval	03/25/99	Business
Begin Flow Through Test Cycle	03/12/99	BIT, System Test Team & ICADS Team
Begin Prod Flow Through Test	04/12/99	Pat Meyers

2.3 User Acceptance Testing

BIT will provide user acceptance testing support during the user acceptance test cycle. BIT will be responsible for providing to the EDI user acceptance team hard copies of the business scenarios being tested, the EDI translated files (FCIF), the database output if the scenario is for a service request, and also the service request as it appears in the firm order manager. BIT will support the GUI user acceptance team by providing status of any issues or concerns that are discovered during testing. BIT will also provide to the GUI user acceptance team hard copies of service requests created to test a scenario and also of the local service requests from the firm order manager.

BIT will provide these hard copies to the business one week after BIT testing begins, if the business would like to be able to start providing input to any problems they discover early in the process. Otherwise, BIT will provide the final hard copies for all business scenarios to the UAT teams the first scheduled day of User Acceptance Testing.

During UAT testing, if the UAT team requests any changes to the software, BIT will be responsible for documenting these changes in the form of CRs. BIT will also provide hard copies necessary for the UAT team to verify that the CRs were correctly fixed by the development team.

2.4 Inter-Team Support

BIT will require support from other IMA teams to complete BIT testing within the scheduled time frame.

2.4.1 Development Teams

The development teams will be responsible for providing additional verification and validation on code discrepancies found during BIT testing.

2.4.2 Business Process Team

The business process team will be responsible for providing clarification of business rules when questions or concerns are encountered. The business process team will also provide business scenarios and SME support when required.

2.4.3 EDI and System Test Teams

The BIT Team will work with the System Test Teams to answer questions and help to provide production data to test CRs or release candidates. The system test team, along with the EDI team, will provide EDI support when needed.

2.4.4 Production Support - US WEST Production SYADs

The US WEST Production SYADS will be responsible for installing each software build on both IMAbit and IMAbs2 and trouble-shooting any problems encountered. Sudhakar Gnanapandithan will be responsible for all database upgrades and changes with assistance from Scott Unrein. The SYADS will be responsible for providing documentation of any corrections or changes that are required to the Installation Guide after each build is installed.

2.4.5 ICADS (Flow Through) Team

BIT, along with the FOM System Test Team and the ICADS System Test Team, will work jointly to test the flow through process. The ICADS team will provide support to troubleshoot flow through orders that error either in the SOC or the SOP.

2.4.6 MEDIACC

The MEDIACC team will provide support during the testing of the Maintenance and Repair.

3. TEST PROCEDURES

3.1 Test Cases

The BIT GUI/EDI/FOM/Flow through testing procedures will include the following:

3.1.1 GUI Test Cycles 1 and 2:

- GUI Pre-order Functions
  - Service Availability Query
  - SAGA for Address Validation
- GUI Order Functions
  - USOC Validation
    - POTS
    - ISDN
    - POTS/PBX
  - Ranges of Ported Numbers
    - Number Portability
    - Loop with Number Portability
- Maintenance and Repair
  - Feature Verification
- Netscape Upgrade
- Reject LSR if CSR in Final
- Approved CRs (See Section 1.1.1.5 Change Requests)
- Verify fixed CRs (Test Cycle 2)

3.1.2 GUI Test Cycle 3

- US West SYAD Functions
  - Establish access to IMA for a new Co-provider.
    - Create a new Corp-ID
    - Create BAN Profile for the Co-provider
    - Create Co-provider state certification
    - Create a system administrator and access
  - Update data for an existing Co-provider.
- Co-provider Administrator Functions
  - Enter a new user profile for the administrator
  - Update existing user profile
  - Create a new user and access
  - Update existing BAN information
  - Update existing user access
- Co-provider User Functions
  - Enter a new user profile
  - Update existing user profile
- End to End - POTS
  - Pre-order Functions
    - Address Validation
    - Customer Service Response
      - Duplicate CSR Resolution for Western

        - Appointment Scheduler
        - Telephone Number Reservation
        - Facility Availability
    - Order Functions
        - Conversion As Is
        - Conversion As Specified (V and Z)
        - New Connect
        - Change
        - Transfer
        - Disconnect
        - Suspend
        - Restore
- End to End - Unbundled Loop
    - Pre-order Functions
        - Address Validation
        - Customer Service Response
        - Facility Availability
    - Order Functions
        - New Connect
        - Conversion As Specified (V)
        - Change
        - Inside Move
        - Disconnect
        - Outside Move
        - Record
- End to End - Number Portability
    - Pre-order Functions
        - Address Validation
        - Customer Service Response
    - Order Functions
        - Local Number Portability - Conversion As Specified (V and Z)
        - Interim Number Portability - Conversion As Specified (V and Z)
        - Interim Number Portability - Change
        - Interim Number Portability - Disconnect
        - Interim Number Portability - Record
- End to End - Unbundled Loop with Number Portability
    - Pre-order Functions
        - Address Validation
        - Customer Service Response
        - Facility Availability
    - Order Functions
        - Local Number Portability - Conversion As Specified (V and Z)
        - Interim Number Portability - Conversion As Specified (V and Z)
- End to End - Unbundled Analog Line Side Switch Port

- Pre-order Functions
  - Address Validation
  - Customer Service Response
- Order Functions
  - New Connect
  - Disconnect
  - Conversion As Specified (V and Z)
  - Record
  - Change

- End to End - Private Line
  - Pre-order Functions
    - Address Validation
    - Customer Service Response
      - Private line-retrieval of CSR by circuit ID
    - Facility Availability
  - Order Functions
    - New Connect
    - Disconnect
    - Conversion As Is
    - Conversion As Specified
    - Change
    - Outside Move
    - Inside Move
    - Record
- End to End - ISDN
  - Pre-order Functions
    - Address Validation
    - Service Availability
    - Facility Availability
  - Order Functions
    - New Connect
    - Conversion As Specified
    - Conversion As Is
    - Change
    - Disconnect
    - Suspend
    - Restore
    - Record
- End-to End - Unbundled Digital Line-Side Switch Port
  - New Connect
  - Disconnect
  - Conversion As Specified (V and Z)
  - Record
  - Change

- End-to-End - POTS/PBX
  - Pre-order Functions
    - Address Validation
    - Appointment Scheduler
    - Telephone Number Reservation
  - Order Functions
    - Conversion As Is
    - Conversion As Specified (V and Z)
    - New Connect
    - Change
    - Transfer
    - Disconnect
- Verify fixed CRs

3.1.3 GUI Final Test Cycle

- Verify Fixed CRs
- Regression Test

3.1.4 EDI Test Cycles 1 - 4

- EDI Pre-order Functions
  - Service Availability Query
  - SAGA for Address Validation
- EDI Order Functions
  - USOC Validation
    - POTS
    - ISDN
    - POTS/PBX
  - Ranges of Ported Numbers
    - Number Portability
    - Loop with Number Portability
- Reject LSR if CSR in Final
- Approved CRs (See Section 1.1.1.5 Change Requests)
- Verify fixed CRs (Test Cycle 2-4)
- EDI Post-Order Functions
- Validate Reorganization of FOC
- End to End - POTS
  - Pre-order Functions
    - Address Validation
    - Customer Service Response
      - Duplicate CSR Resolution for Western, Eastern and Central
    - Appointment Scheduler
    - Telephone Number Reservation
    - Facility Availability
  - Order Functions
    - Conversion As Is

        - Conversion As Specified (V and Z)
        - New Connect
        - Change
        - Transfer
        - Disconnect
        - Suspend
        - Restore
- End to End - Unbundled Loop
    - Pre-order Functions
        - Address Validation
        - Customer Service Response
        - Facility Availability
    - Order Functions
        - New Connect
        - Conversion As Specified (V)
        - Change
        - Inside Move
        - Disconnect
        - Outside Move
        - Record
- End to End - Number Portability
    - Pre-order Functions
        - Address Validation
        - Customer Service Response
    - Order Functions
        - Local Number Portability - Conversion As Specified (V and Z)
        - Interim Number Portability - Conversion As Specified (V and Z)
        - Interim Number Portability - Change
        - Interim Number Portability - Disconnect
        - Interim Number Portability - Record
- End to End - Unbundled Loop with Number Portability
    - Pre-order Functions
        - Address Validation
        - Customer Service Response
        - Facility Availability
    - Order Functions
        - Local Number Portability - Conversion As Specified (V and Z)
        - Interim Number Portability - Conversion As Specified (V and Z)
- End to End - Unbundled Analog Line Side Switch Port
    - Pre-order Functions
        - Address Validation
        - Customer Service Response
    - Order Functions
        - New Connect

- Disconnect
- Conversion As Specified (V and Z)
- Record
- Change

- End to End - Private Line
  - Pre-order Functions
    - Address Validation
    - Customer Service Response
      - Private line-retrieval of CSR by circuit ID
    - Facility Availability
  - Order Functions
    - New Connect
    - Disconnect
    - Conversion As Is
    - Conversion As Specified
    - Change
    - Outside Move
    - Inside Move
    - Record
- End to End - ISDN
  - Pre-order Functions
    - Address Validation
    - Service Availability
    - Facility Availability
  - Order Functions
    - New Connect
    - Conversion As Specified
    - Conversion As Is
    - Change
    - Disconnect
    - Suspend
    - Restore
    - Record
- End-to End - Unbundled Digital Line-Side Switch Port
  - New Connect
  - Disconnect
  - Conversion As Specified (V and Z)
  - Record
  - Change
- End-to-End - POTS/PBX
  - Pre-order Functions
    - Address Validation
    - Customer Service Record
    - Appointment Scheduler

        - Telephone Number Reservation
    - Order Functions
        - Conversion As Is
        - Conversion As Specified (V and Z)
        - New Connect
        - Change
        - Transfer
        - Disconnect
- End-to End - Centrex Analog Non-Design Line order
    - Pre-order Functions
        - Address Validation
        - Customer Service Record
    - Order Functions
        - Conversion As Is
        - Conversion As Specified
        - Conversion Spec/No DL
        - Change
        - Record

3.1.5 EDI Final Test Cycle

- Verify Fixed CRs
- Regression Test

3.1.6 Firm Order Manager

The **Firm Order Manager** will be tested during each test cycle and during the end-to-end testing after GUI and EDI orders have been entered into the FOM.

- Firm Order Manager
    - General layout (Addition or Deletions of Items) of each screen
        - Criteria Screen
        - LSR List Screen
        - LSR View Screen
            - LSR Detail
            - CCNA/PON History
            - CSR
        - Reject Screen
        - Error Screen
        - Jeopardy Screen
        - LSR Confirmation and Summary Screen
        - Notes Screen
        - Cancel Screen
        - Route Screen
        - Compare Screen
        - Completion Screen
    - LSR Lock
        - Administrative Link to Lock Screen

- Locking of LSRs
- JAVA/GUI Orders
  - Reject
  - Error
  - Cancel
  - Route
  - Notes
  - Compare
  - LSRC
    - Fax
    - Email
    - Both fax and email
    - Save and Restore
  - Manual Completion's
  - Automatic Completion's
  - Multiple CSRs
- EDI Orders
  - Reject
  - Error
  - Cancel
  - Route
  - Notes
  - Compare
  - FOC
    - EDI
    - Reorganization
  - Manual Completions
  - Automatic Completions
  - Multiple CSRs
- Automated Directory Advertising Check
- Flag LSR not matching USW CSR
- USOC Validation
- Rejects and Errors
- Jeopardy Status
- Resource Return for TNs and Appointment
- Manual Jeopardy
- Ranges of Ported Numbers

- Approved CRs (See Section 1.1.1.5 Change Requests)

3.1.7 Flow Through

- Flow Through
  - Eastern, Western and Central Region (Both GUI and EDI)
    - Change
    - Conversion As Is

- Conversion As Specified
  - Add and Delete Features with Complete Recap and without Complete Recap
  - Add and Delete of Lines with Simple Listing Changes

The following enhancements will be tested during each GUI test cycle while different products are being tested:

- Store and Retrieve LSR
- Directory Listing Exceptions
- Completed Order Summary

3.1.8 Final Test Cycle

- Joint End-to-End testing with GUI, EDI and FOM
- Regression test of the GUI, EDI and the FOM

3.1.9 Production Flow through Test

BIT will create Change, Conversion As Is and Conversion As Specified (Central, Western, and Eastern) service order requests, both GUI and EDI, in the Production Environment. Each service order request will be processed through the Production FOM for flow through and tracked though the SOPS and CRIS until it has posted in BOSS/CARS.

3.2 Pass/Fail Criteria

- A test will be considered successful if there are no defects found.
- If a defect is found while testing, certain steps will be followed to determine the impact on the release:
  - Is the defect in fact a true 'show stopper'?
  - Can it be corrected in the allotted time frame?
  - If it cannot be corrected, are there possible work-arounds until the code can be corrected in the next release or a subsequent patch?
  - Impacts to the business if the correction of the defect is delayed.

3.3 Resolution and Retest of Change Requests

All defects discovered during the BIT testing cycles will be recorded in DDTS after each one has been discussed with the business, system test, and development to determine whether or not it was previously recorded during their test cycles. Each change request will be discussed in the release status meeting to determine its impact upon the release and its severity. Any changes to the baselined requirements will be discussed in the Change Control Board weekly meeting and assigned for analysis to determine the scope of work required to implement the change.

4. DOCUMENTATION REVIEW

BIT will provide technical review of the IMA User's Guide, the FOM User's Guide, Release Notes, System Administration Guide, and the Maintenance and Repair Guide during testing to validate the correctness of each document. Each document will be used during BIT testing to assure the flow of the process is correct, the screens have been updated, where necessary, and for technical content. BIT will provide corrections to the documentation team after completion of the first review. These corrections will be made to documents and a final draft will be provided to BIT for a final review. Each document will be updated with the final corrections before being released to the co-providers.

5. BIT RELEASE APPROVAL

BIT will review all outstanding CRs with the business to determine if any of these CRs are 'show stoppers' that cannot be resolved with a work-around. If the business determines that the CRs are in fact 'show stoppers', these will be discussed with IMA management to determine their impact upon the release. The scope of work required to fix the CRs will be determined and discussed with the business and a go/no go decision will be made on the release. All outstanding CRs will be documented as open issues in the final BIT issues memo that is added to the documentation packet for the final sign-off go/no go decision.

US West Information Technologies

TO: IMA Management

FROM: Pat Meyers

DATE: March 25, 1999

SUBJECT: IMA Release 4.0 Business Integration Test Results and Issues

INTRODUCTION

The main enhancement for release 4.0 is the integration of the Wholesale Product Table (WPT) into IMA. The data from this table is used by IMA in two ways. The Service Availability Query (SAQ) in the GUI and EDI will now provide each co-provider a list of the USOCs they are authorized to resell in the state requested. The BPL will use the information in the WPT to provide USOC validation. If the USOC provided by the co-provider on the LSR is not valid in the WPT, the BPL will provide a hard-reject message to the co-provider indicating that the USOC(s) are invalid and that the LSR cannot be submitted.

There are no new products added to either the GUI or EDI for 4.0. Number portability will be enhanced to allow for ranges of ported numbers. This allows co-providers to submit one form for an entire range of numbers, rather than a single resale form per telephone number.

The GUI infrastructure is being upgraded to allow for the use of versions of Netscape higher than 3.01. The officially supported version, which we will test, will be Navigator 4.08.

There are many modifications to the FOM in the 4.0 release. Save and restore functionality will be added for the LSRC. The Error/Jeopardy confirmation screen will be divided into two separate screens - one for LSR Errors and a separate one to provide notification to the co-provider when their LSR is in Jeopardy of not completing as submitted. The FOC FCIF file will be reorganized to add some additional fields and reorganize others.

Maintenance and repair will be augmented to provide co-providers the ability to manually verify features associated with a TN in order to assist with troubleshooting problems.

The IMA Release 4.0 Business Integration GUI and EDI testing were performed on the BIT test boxes (IMABIT and IMABS2). Even though the BIT testing of Release 4.0 began on February 19, 1999 and ended on March 25, 1999, BIT experienced a slow beginning of GUI testing due to some downtime. Part of the downtime was due to the late arrival of a computer that had the capacity to support the GUI testing, plus the JAVA Plug-In had not been installed on the BIT server to allow downloading of the functionality. BIT provided UAT support for EDI testing, both Pre-Order and Order.

The following are a list of enhancements and/or Change Requests (CRs) that were tested for Release 4.0:

The **JAVA GUI** was improved to support the following enhancements:

- Enhanced SAQ/WPT Integration (DESsv05179)
- USOC Edits/WPT Integration (DESsv05179)
- Allow Ranges for Ported Numbers (DESsv01372)

- Netscape Upgrade for CLEC GUI (DESsv01309)
- Reject LSR if CSR in Final (DESsv06094)

Maintenance and Repair (M&R) was enhanced to provide the following new and updated functionality:

- Modify Message from MEDIACC (DESsv05946)
- M&R: Modify Functionality – Updates DB when modified (DESsv5871)
- Feature Verification (DESsv5632)

Electronic Data Interchange (EDI) Pre-order functionality and existing products were enhanced to provide the following:

- Enhanced SAQ/WPT Integration (DESsv05179)
- USOC Edits/WPT Integration (DESsv05179)
- Allow Ranges for Ported Numbers (DESsv01372)
- Reject LSR if CSR in Final (DESsv06094)
- Reorganize of FOC/FOM (DESsv01071)

The **Business Process Layer (BPL)** was enhanced to provide the following new edit checks for all submitted orders:

- USOC Edits/WPT Integration (DESsv05179)
- Reject LSR if CSR in Final (DESsv06094)
- EUI-Bill Section need to populate fields in the Database (DESsv04999)

The **Firm Order Manager (FOM)** was enhanced to support the following enhancements:

- USOC Edits/WPT Integration (DESsv05179)
- Allow Ranges for Ported Numbers (DESsv01372)
- Flowthru-POTS Change Order (DESsv06096)
- FOM-Anchor LSR ID to LSR List Screen (DESsv3546)
- LSRC Save/Restore in FOM (DESsv3259)
- Manual Jeopardy (DESsv5003)
- Reorganize of FOC/FOM (DESsv01071)

- EUI-Bill Section need to populate fields in the Database (DESsv04999)

The following is a list of approved **Change Requests (CRs)** that were also included:

- DESsv01559 – Change to worksheet rules for AN on the EUI and FOC
- DESsv05645 – State and Zip Code were not returned in the Near Match AVR
- DESsv05724 – Error/Jeopardy Held-Order and Non-Fatal screen shifts to the right
- DESsv06535 – Changes to DL, DSCR, and DSR for Unbundled Analog/Digital
- DESsv06551 – Sup Order goes through when original order is in completed
- DESsv06743 – Need to Display SAGA pull down list for Address Validation
- DESsv06809 – CSR retrieval by Circuit ID – Can't resolve multiple matches
- DESsv06848 – TC not allowed for range of number portability
- DESsv06892 – Corrections to the Service Availability Worksheet
- DESsv07066 – Changes to EDI RPL field 101 – ECCKT
- DESsv07071 – Change 850AVQ and 855AVR LNAME field
- DESsv07126 – Change ERRNUM field in mapping for Consistency and Standardization
- DESsv07127 – Change ERRCODE field for standardizing and mapping consistency
- DESsv07217 – Remove POTS/PBX column from FOC and Completion Dev Worksheet
- DESsv07244 – M&R Additional Closure Information
- DESsv07252 – Issues with the SC field on the LSR
- DESsv07272 – Changes to the Port Service Form
- DESsv07393 – Change to the Resale From (fallout form Release 3.3)
- DESsv07492 – BPL- Centrex TER is required when TLI is populated
- DESsv07494 – REQ – Centrex OTN Business Rule #2 needs clarification
- DESsv07513 – USOC Validation Candidate for 4.0 needs to not do Hard Reject (Cancelled-Replaced with CR DESsv08187)
- DESsv08187 - USOC Validation needs to reject requests with invalid USOCs
- DESsv07535 – APPTIME on LSR with Loop and Loop w/ Number Portability

- DESsv07536 – APOT field on LSR form for Loop and Loop w/ Number Portability
- DESsv07537 – CFA field on LSR form for Loop and Loop w/ Number Portability
- DESsv07541 – Dup CSR: Status not displayed Correctly
- DESsv07641 – Eliminate CHC code conversion table from EDI mapping example
- DESsv07710 – USOC Validation for ACT=T needs to be corrected
- DESsv07763 – Modify Error/Jeopardy FCIF Message Format
- DESsv07764 – Address Validation Dev. Worksheet – 4.0 Disclosure Synch-up
- DESsv07766 – Directory Listing Dev. Worksheet – 4.0 Disclosure Synch-up
- DESsv07767 –Loop Service Dev. Worksheet – 4.0 Disclosure Synch-up
- DESsv07768 – Loop with Number Portability Dev. Worksheet – 4.0 Disclosure Synch-up
- DESsv07769 – LSR Developer's Worksheet – 4.0 Disclosure Synch-up
- DESsv07770 – TN Developer's Worksheet – 4.0 Disclosure Synch-up
- DESsv07787 – 850LNPRQT- Loop Services and Number Portability
- DESsv07828 – Changing length of lsrc_email field
- DESsv07833 - Make PIC and LPIC fields consistent on Developer Worksheets
- DESsv07837 – LSR Conversion as Is Issues
- DESsv07907 – Error/Jeopardy/Work Group Status – Change to Prospects field
- DESsv07908 – EUI Developer Worksheet – 4.0 Disclosure Synch-up
- DESsv07909 – Discount Percentage fields need to be a/n on Service Availability
- DESsv07924 – English Descr. Field on SAQ needs to accommodate 150 chars.

Business Integration Test (BIT) for Release 4.0 not only included the testing of the new functionality added to IMA with this Release, but also ensured that the current functionality continued to function without adverse affects or changes.

The following documents, along with the CRs listed above, were utilized to assure Release 4.0 met all of the requirements as stated:

MISCELLANEOUS DOCUMENTS

- Developer's Worksheets-Version 4.0.03

- Release 4.0 Functional Requirements Extract

JAVA GUI

- Browser Migration Analysis, September 22, 1998, Version 4.00.01

FOM

- USOC Validation for Order Enhancement Specification, October 8, 1998, Version 4.00.06
- USOC Validation for Order Change Log, January 12, 1999, Version 4.00.00
- SAQ Enhancement Specification, October 8, 1998, Version 4.00.03
- Range of Ported TNs Enhancement Specification, October 9, 1998, Version 4.00.03
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- Manual Jeopardy Enhancement Specification, August 13, 1998, Version 3.03.05
- Manual Jeopardy Enhancement Specification Change Log, December 2, 1998, Version 4.00.03
- Reorganize of FOC/FOM Enhancement Specification, September, 18, 1998, Version 4.00.01

FLOWTHROUGH

- ICADS 4.0 Functional Specifications: Resold Activity with Change for Central, Eastern, and Western Regions, December 22, 1998

GUI/EDI PRE-ORDER

- SAQ Enhancement Specification, October 8, 1998, Version 4.00.03
- SAGA for Address Validation White Paper, January 5, 1999, Version 4.00.03

GUI/EDI ORDER

- Reject LSRs with a Final CSR, October 9, 1998, Version 4.00.03
- Range of Ported TNs Enhancement Specification, October 9, 1998, Version 4.00.03
- Range of Ported TNs Change Log, January 4, 1999, Version 4.00.03
- USOC Validation for Order Enhancement Specification, October 8, 1998, Version 4.00.06
- USOC Validation for Order Change Log, January 12, 1999, Version 4.00.00

MAINTENANCE AND REPAIR

- Feature Verification Enhancement Specification, October 13, 1998, Version 4.00.02

BUG/ENHANCEMENT CHANGE REQUEST STATUS

During Release 4.0 testing BIT created a total of 60 Change Requests (CRs): No Severity 1, 15 Severity 2, 36 Severity 3, and 9 Severity 4. Of these 60 CRs all were corrected with Release 4.0 except for a total of 21 CRs. Of these 21 outstanding CRs 2 are Severity 2, 15 are Severity 3, and 4 are Severity 4.

The following list of CRs will be reviewed in the CCB for consideration in a future release:

1. DESsv08717 IMA_BV N 4 (BUG) (4.0=8561)Feature Verification screen does not fill window
2. DESsv08708 IMA_CCB A 3 (BUG) USOC Validation: Order submitted with invalid USOC
3. DESsv08741 IMA_CCB A 3 (BUG) SAQ: Displays $0.00 for rate on non-switch based USOCs
4. DESsv08847 IMA_CCB A 3 (BUG) HICAP FAQ: 'See Raw Data' Returned in response
5. DESsv08849 IMA_CCB A 3 (BUG) CSR: ECCKT is not populated in the CSRR
6. DESsv08867 IMA_CCB A 3 (ENH) Business Rules for LNA=D, FA required needs to be changed
7. DESsv08890 IMA_CCB A 3 (ENH) GUI Performance issues with navigation on the screens
8. DESsv08899 IMA_CCB A 3 (BUG) ISDN Suspend: Inconsistent Rules
9. DESsv08900 IMA_CCB A 3 (BUG) FOM: Get CSR link should be disabled when no AN/EAN
10. DESsv08909 IMA_CCB A 3 (BUG) FOM: Street Number missing when FBI=D
11. DESsv08911 IMA_CCB A 3 (BUG) FOM CSR Information shows 3 CSRs, CARS shows 2
12. DESsv08913 IMA_CCB A 3 (BUG) CSR: CSR STATIND & CS are not populated on Multiple match
13. DESsv08916 IMA_CCB A 3 (BUG) CSRR returned Bill Name, NOT List Name on a Multiple Match
14. DESsv08832 IMA_CCB A 4 (BUG) RPL: Address Drop down not defaulting
15. DESsv08883 IMA_CCB A 4 (BUG) Feature Verification screen does not fill window
16. DESsv08845 IMA_DB A 3 (BUG) NC/NCI codes not in Database
17. DESsv08877 IMA_ORDER A 2 (ENH) Pre-order CSRR does not display status on exact matches

18. DESsv08687 IMA_ORDER A 3 (BUG) CSR with status of final, order allowed to submit

19. DESsv08939 IMA_ORDER N 2 (BUG) RPL: Can't Disconnect a Private Line

20. DESsv08848 IMA_OSS A 3 (BUG) Large CSRs missing data

21. DESsv08501 IMA_REQ A 4 (ENH) EUI: IWO has extra invalid values

The FOM will deploy a patch to correct a Flow Through problem discovered during the last days of testing. This patch will be deployed after Release 4.0 has been installed in production on March 26. Due to the deployment of this patch, the Flow Through testing normally conducted in production will be delayed.

There are still some minor problems with CSR duplicate resolution in the Western Region. These problems will continue to be addressed by the IMA OSS suppliers and addressed in a future release.

The problem that is currently being experienced in Release 3.03 with the Account Status not displaying for CSRs on the Multiple Match screen has been resolved in Release 4.0 with a minor problem that will be fixed by Fetch n Stuff in a patch by May 14. The problem that will be encountered by our co-providers when retrieving a CSR that will result in displaying the Multiple Match screen is that instead of receiving an Account Status that should display as a 'blank' on the screen will display with an Account Status of 'UNKNO'. This information will need to be provided to the Deployment/Training Team, as well as, the IMA Help Desk and Production SYADS to help them when screening calls from the co-providers.

The 'UNKNOWN' status being returned for the Account Status of 'blank' will also provide an impact to the co-providers when trying to perform Feature Verification. In the cases where the CSR has a status of 'UNKNOWN' the information is not retrieved. The following error message will be received by the co-provider in these cases: "OSS Gateway: Error returned from Gateway. The requested information was not found."

During the testing of each BIT Build, no Severity 1 CRs were discovered. The 60 CRs that were discovered by BIT were evaluated and reviewed during the daily status meetings. The 21 CRs that were not fixed during Release 4.0 will be deferred to the Change Control Board (CCB) for consideration in a future release. It was determined by the business and other members of the 4.0 release team that the 21 deferred CRs and the other known problems which will be fixed with future patches in production are in fact not to be considered 'show stoppers' for this release.

The assistance BIT received from the business, development teams, system test teams, both JAVA GUI, FOM and EDI, ICADS, production SYADS, and IMA management during the BIT testing of Release 4.0 was, as always, appreciated. I would like to thank each of you for your support and assistance.

Answer: APA has not noticed or taken any depositions in this matter as of the date of this Response.

RESPECTFULLY SUBMITTED this 30th day of April, 1999.

ROSHKA HEYMAN & DEWULF, PLC

By _____

Raymond S. Heyman
Randall H. Warner
Two Arizona Center
400 North 5th Street, Suite 1000
Phoenix, Arizona 85004-3906

Attorneys for Arizona Payphone Association

ROSHKA HEYMAN & DEWULF, PLC
TWO ARIZONA CENTER
400 NORTH 5TH STREET - SUITE 1000
PHOENIX, ARIZONA 85004
TELEPHONE NO 602-256-6100
FACSIMILE 602-256-6800